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OPIATES & THE HUMAN MIND

Louise Stratton
July, 1976
# TABLE OF CONTENTS

**OPIATES AND THE HUMAN MIND**  
*(PT. II OF A SERIES)*

**THE PSYCHOLOGICAL AND SOCIAL RAMIFICATIONS OF OPIATE ADDICTION**  
*A Review of the Literature*

<table>
<thead>
<tr>
<th>Contents</th>
<th>Page</th>
</tr>
</thead>
<tbody>
<tr>
<td>Preface</td>
<td>1</td>
</tr>
<tr>
<td>Introduction</td>
<td>11</td>
</tr>
<tr>
<td>Drug Addiction - A Self Treatment Attempt</td>
<td>iv</td>
</tr>
</tbody>
</table>

**Drug Addiction - A Self Treatment Attempt**

- General Comments | 1
- The Addictive Personality | 2
- Depression, The Common Thread | 8
- Self-Treatment/Instant Reinforcement | 12
- Psychosis and Neurosis | 17
- Situational Addiction | 23

**The Absence of Readily Available and Successful Treatment Modalities**

- Relapse Rates | 31
- Methadone Maintenance Treatment Program Success | 32
- Abstinence Treatment Programs | 34
- Winick's Theory ... The "Maturing Out" Process | 40
- Wikler's Theory of Relapse ... Classical Conditioning | 42
- Social Factors Affecting Relapse | 44

**Opiates Will Not Harm the Addict or Society**

- Introduction | 46
- Motor Performance and Mental Efficiency | 49
- Social Influences | 50
- Crime | 51

**Prejudice and Fear Surround the Use of Opiates**

- Introduction | 61
- Racial Prejudice ... Chinese Immigration | 67
- Class Prejudice ... Irrational Fear | 73

**Other Drugs, Better or Worse?**

- Summary | 83
- Bibliography | 90

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In the early 19th century, our grandfathers became extremely disturbed about the alleged physical, social and psychological effects of opiates. They did not seek or find objective scientific evidence to verify their apprehensions. Instead they proclaimed their fears with increasing vigour and frequency. Shortly laws were passed making this previously freely available substance illegal and providing severe penalties for possession and sale. At that point, an active illegal market developed which has continued to expand ever since. Today's delinquent opiate addict, who steals hundreds or thousands of dollars monthly to maintain his habit, is a direct evolutionary result of those events.

In her previous paper, Opiates and the Human Body, (Stratton, 1975), Mrs. Stratton reviewed the scientific evidence to date and concluded that there are no scientifically supportable, significant adverse physical effects from chronic opiate use. In this paper, she has reviewed the scientific and historical evidence regarding the social and psychological effects of opiates. Her conclusions are similar. Simply stated, despite a great deal of research, there is no scientifically acceptable evidence that chronic opiate use causes significant psychological harm to the user or social harm to other people. In short, our grandfathers banned opiates on the basis of foolish, unsound and unfounded beliefs and racial prejudice (against Chinese). Our legacy from their foolish actions is a large predatory delinquent opiate using sub-society and a massive, expensive law enforcement and corrections apparatus to punish those who persist in using or selling opiates in violation of the law. In British Columbia some 35% of our Federal inmate population are opiate addicts.

The obvious question is, what can we do to ameliorate the situation? Over the long run we can, as citizens, encourage our members of parliament to substantially modify opiate law. However that will take many years.
Over the short run, as corrections professionals, we can, however, do a great deal to lessen the burden. Existing law permits the prescription of any opiate except heroin to confirmed addicts for maintenance. If we were to use the full potential of existing law for that purpose, most of our addicts could be kept out of prison, most of their legal offenses would be ended, and a great many would become productive citizens.

Our next paper was to have reviewed existing types of treatment and to outline programmes based upon hassle free prescribed opiates. Unfortunately, there is now considerable doubt if there will be a next paper. CPS HQ has decided to terminate the Regional Research Unit and move its positions to Ottawa to work on management information systems. None of the Research Unit Staff are prepared to go to Ottawa, and most have already resigned as a result. The remaining staff are actively seeking other employment.

So, unless the Pacific Region soon manages to convince CPS HQ that their decision should be reversed, this may well be the last Research Unit paper distributed to CPS and NPS Pacific Region Programme and administrative staff. You can, however, have some influence on the outcome. If you have an opinion about retaining the Research Unit, write the Regional Director; tell him what you think, and ask him to inform the Commissioner of your feelings.

Brian C. Murphy
REGIONAL RESEARCH OFFICER (PACIFIC)
9 July, 1976
INTRODUCTION

The heroin addict*, the alcoholic*, the chain smoker, the compulsive eater, and the music maniac all partake of their various habits out of perceived or real needs. The needs presumably have attracted the individual to the use of a certain drug, food, or other behaviour pattern in order to alleviate pain, anxiety, or any number of given discomforts as well as to bring about a feeling of contentment and ease. Any animal organism reacts defensively to protect itself from pain, or offensively to obtain pleasurable satisfactions, whether physical or mental. The choice of defensive or offensive action may not be to the ultimate objective benefit of the organism, but under the perceived circumstances there may not appear any other feasible alternative. A particular personality or psychological makeup may predispose an individual to close out or open up the world with a specific drug as opposed to another or with some specific non-drug related behaviour such as climbing mountains or listening to music. No matter what drug or other behaviour is chosen, it must have reinforcing efficacy* or the individual concerned will not continue in the same vein but will seek alternative outlets. In the case of opiate addiction, if the resultant effect of the opiate on the user is reinforcing, causing the individual to use it frequently enough over an adequate length of time at sufficient doses he will become physically dependent* upon the drug. This is also true of alcohol and a number of other pharmacologically* addicting substances. Tobacco for the smoker, food for the compulsive eater, music for the individual that insulates himself in sound, or solitude and challenge for the mountain climber must be identified with psychological need fulfillment as physical dependence is not an issue. Tobacco, for example

* All asterisked terms are defined in the Glossary.
is not physiologically addicting, but it closely parallels the opiates and alcohol when it comes to relapse to its use after attempting to abstain (Hunt, et. al., 1971). Thus the suggestion that psychological dependency is as critical as physical dependency is given credibility by the fact that the cigarette smoker, music lover, or mountain climber all find it as difficult to terminate their habits as does the alcoholic or the heroin addict. In other words, the relapse rates for alcoholism, cigarette habituation, and alcohol addiction are very similar. Although specific studies are not available to geometrically describe the relapse curves, few music or mountain climbing habituates are known to have successfully abandoned their habits.

It is important to note that many people consume alcohol without becoming alcoholics. Knight (1937) in discussing the psychodynamics of alcoholism says, "Psychiatrists are agreed that the problem is primarily psychiatric..." (P. 538) Alcoholism itself is generally not diagnosed on the basis of volume consumed nor is it treated as a disease entity relative to its physical dependence producing liability. Lelbach (1974), in an extensive and impressive coverage of organic pathology related to volume and pattern of alcohol use asserts that alcoholism is not strictly a question of quantity. "It has been repeatedly pointed out (references 50, 316, 524 from Lelbach) that alcoholism cannot be defined in terms of quantity consumed per time unit. Moreover, excessive drinking is by no means necessarily identical with addiction to alcohol. For example, Prys-Williams (reference 392 from Lelbach) states that according to statistics from England and Wales most regular heavy drinkers and most of those arrested for drunkenness are not alcoholics." (Lelbach, 1974. P 95). One can also smoke opium or take intravenous heroin without becoming a "Junkie".* If on the basis of per capita use, a greater number of opiate users become junkies than alcohol users become alcoholics it is at least in part due to the social status differential
between the two drugs. This will be shown explicitly in the text of this presentation by considering opiate addiction in a cultural framework which enables its legal use. (Westermeyer, 1971)

Kolb (1962), in his book Drug Addiction; A Medical Problem, stresses the importance of psychological factors in opiate addiction and subsequent relapse. "Two well-entrenched ideas are that opiates bring on a state of moral perversity that renders addicts indifferent to cure and therefore liable to relapse and that these drugs produce a physical change that makes their continued use necessary and the impulse to return to them irresistible. Careful study shows, however, that induced moral perversity has nothing to do with relapse and that, except in rare cases of prolonged addiction, physical dependence on opium is temporary and second in importance to psychological factors in bringing about relapse." (Kolb, 1962, P 72.)

Hence, whatever the addiction or habituation, once psychologically dependent the individual faces a tremendous obstacle in attempting to withdraw from the dependence produced behaviour. Inasmuch as the opiates may be both physically and psychologically dependence producing, herein lies one difference between them and some other more acceptable habits. The precipitating need of the opiate dependent person may be similar to that of the music maniac but the outcome is obviously different, both for the individual and to society for social and sociological reasons.

Since the needs of the individual determine his choice from among the variety of available outlets which he perceives will meet these needs, he must choose his drug or activity accordingly. Where he goes from this point is largely determined by the drug or behaviour itself, economic and supply factors, and how society views the habit and hence treats the individual concerned. Because the public in general cannot
possibly possess accurate knowledge of all drugs and their effects on the human organism it follows that there must be significant areas of inaccurate knowledge or large gaps between small bits of truth regarding drugs in general. Therefore it is more than a possibility that the opiates may not be as harmful as many think and that the opiate addict has become a societal misfit simply because we claim him to be one. If we can accept, on the basis of the preceding section of this report (Opiates and The Human Body)\(^1\) that there are no significantly adverse physical effects to the human organism as a result of opiate use per se, we are in a position to question the possible psychological and social harm which may result from opiate addiction. What effects do opiate narcotic drugs have on the psychological functioning, mental efficiency, motivation, and immediate social environment of the addicted individual?

Considering these issues involves looking into very difficult areas of research; looking into empirical, historical, and subjective evidence; and considering and attempting to overcome by rational and objective evaluation, the obvious societal and political biases toward opiate narcotic drugs. It is difficult to argue against sound scientific evidence backed by thorough laboratory research or objective clinical data. But, when evidence is subject to any stretch of interpretation or subjectivity, long standing prejudices, fears, and attitudes are difficult to overcome when they are in conflict with, or threatened by, new ideas and concepts. On the basis of both early and recent research, the following concepts will be discussed with the hope that the reader may conscientiously evaluate this information with a view toward better understanding of the opiate addict and his addiction. These statements are not necessarily issued here as substantiated fact but rather as departure points for discussion. Drug addiction, specifically opiate addiction, is the result of a self-treatment attempt on the part of the user.

The use of opiates as self-treatment appears effective in the absence of other readily available and successful treatment modalities, hence the opiate addict requires his drug or a viable substitute to meet his psychological and secondarily, his physiological needs.

\(^1\)STRATTON, 1975; see bibliography.
Opiates will not harm the addict or society if considered and dealt with in a medical context for the treatment of a pathological disorder.

The problems and dangers associated with opiate narcotic use are a result of prejudicial attitudes and unfounded fears. Therefore, labelling the opiate addict a criminal and placing his drug on the list of illicits is worthy of objective criticism.
DRUG ADDICTION - A SELF TREATMENT ATTEMPT

Drug addiction, specifically opiate addiction, is the result of a self-treatment attempt on the part of the user in an effort to cope with life problems with a greater degree of comfort and ease.

GENERAL COMMENTS

THE ADDICTIVE PERSONALITY

DEPRESSION, THE COMMON THREAD

SELF-TREATMENT

PSYCHOsis AND NEUROsis

SITUATIONAL ADDICTION

SUMMARY
GENERAL COMMENTS

In a general discussion covering psychological aspects of heroin and other dependence producing drugs, Pittel (1971) indicates that psychological studies and clinical evaluations of the personality characteristics of opiate addicts have been carried out for decades. Results show a great amount of psychopathy and a variety of different neurotic and psychotic states. Some research implies from its findings that there is a common deviancy among those that turn not only to the opiates for gratification but to all dependence-producing drugs. Other work suggests differences among users of different drugs thereby implying unique personality constellations and/or social factors associated with the use of each. In either case, the supposition that the addict requires the pharmacological effect of the opiates in order to function, not only physically but more importantly, psychologically, and that the addict's personality was such that required the euphoric* and analgesic* effects of opiates as a result of pre-existing deviant behaviour or personality characteristics is evident. A few researchers imply that the drug causes the deviancy but no substantiation for this viewpoint was found through this literature review. Opiates, although not causing deviancy perhaps after long-term use, do highlight it due to their inability to continue to provide the sought-after euphoric effects. Addicted individuals develop a tolerance* to the pharmacological effects of the opiates and require larger doses after prolonged use in order to achieve the same effect.

With rare exception, all studies agree that the opiate addict is a distressed individual. To name a few: Arnon, et. al., Baer and Corrado, Brien et. al., Brill, Brown, Densen-Gerber et. al., Felix, Fisch et. al., Fort, Frank, Gertler, Hill et. al., Howe, Khantzian, Knight and Prout, Kolb, Lindenthal, et. al., Low, McKenna et. al., Nyswander, Pittel, Rado, Sola and Wielund, Stanczak et. al., Sutker, Sutker and Allain, Sutker
Schuster and Johanson (1974) report that the majority of addicts treated at Lexington and Fort Worth hospitals were found to be anti-social before their addiction began. The results of a number of studies lend credence to the concept that the opiate addict turned to drugs in an attempt at self-treatment. Kolb (1925), a proponent of this theory states that both heroin and morphine in large doses change "drunken, fighting, psychopaths into sober, cowardly, non-aggressive idlers." Kolb also makes a distinction between medically addicted individuals and those he refers to as "pure dissipators". The dissipators accidentally find that narcotics, especially opiates, have an agreeable effect on them, and they become addicted through indulging in quest of this effect." (P.171)

This literature review, unless otherwise stated refers to those addicts Kolb identifies as dissipators. Although there is little data definitely comparing personality characteristics of addicts in preaddictive and addictive periods, much clinical experience and several studies support the theory that it is not the drug that causes the malady, but rather the drug that at least temporarily alleviates it. Kolb (1962), in an evaluation of the histories of 230 addicts found only 14% could be considered normal before addiction. He further suggests that a more intensive study might have disclosed abnormalcy for the so-called "normals" as well.

Some studies imply that treatment improves or at least does not adversely affect psychological adjustment. Inasmuch as the treatment is most often methadone maintenance plus support services such as family and individual or career counseling, these works tend to confirm the assertion that the opiates themselves do not cause deviant characteristics or improvement or stability would not be noted in maintenance programmes. Two studies exemplify this (Haddox and Jacobson, 1972; Sutker, Allain and Cohen, 1974). Haddox and Jacobson report on the mood
and personality fluctuations of 43 long-term methadone maintenance patients studied in Hawaii's Methadone Blockade Treatment Programme sponsored by the John Howard Association and the Hawaii State Department of Health. Physical and psychological studies were initially performed as patients entered the programme and methadone dosage was initiated. When a maintenance level of 100 to 120 mg per day was reached, addicts became outpatients. Randomly selected urine samples were analyzed to reveal use of drugs other than methadone since this would affect the results of the study. The report concerned utilized the MMPI, the Clyde Mood Scale (CMS), The Multiple Affective Adjective Check List (MAACL), The Taylor Manifest Anxiety (TMA), and the Edwards Social Desirability (ESD), to measure personality and mood. All but the MMPI were administered at regularly scheduled weekly intervals throughout the first year of programme operation in order to evaluate possible short-term changes. Test norms were used for comparisons. Results indicated that the patients responded normally on the CMS except that their scores indicated less aggression and more happiness than norms. On the MAACL they showed an average anxiety as well as depression value but greater hostility. The TMA and ESD scales showed an average degree of anxiety but less-than-normal degree of social desirability. As aptly put by the authors, the normal level of anxiety might be attributable to the anxiety reducing effect of methadone (opiates in general). Authors also suggest that hostility can be expected in addicts when they are subject to control measures as were necessary to this study. The subjects' lower than norms degree

1MMPI - Minnesota Multiphasic Personality Inventory. A psychological testing instrument used for routine assessment of the nature and degree of emotional upset of adults seeking help and in research population (D.A. Rodgers from Buros, 6th Mental Measurements Year Book, 1965)

2The Clyde Mood Scale has six scores; friendly aggressive, clear thinking, sleepy, unhappy, and dizzy.

3The Multiple Affective Adjective Check List has three scales; A, anxiety, D, depression, and H, Hostility.

4The Taylor Manifest Anxiety and the Edwards Social Desirability Scale each measure only the one area of concern obvious by their titles.
of interest in social desirability might "lie in their background of long-term addictions, jail terms, and frequent recidivism -- they simply do not care 'socially' any longer." (P.622) Haddox and Jacobson summarize that the measurement used demonstrated that the average subject in this programme was adequately adjusted psychologically. Authors do not state specifically how the measures, while on methadone, compare with the measures taken when addicts entered the programme. So, although this would be an interesting comparison either it was not an objective of the study or they were more interested in week-to-week mood fluctuations. They did state that it was possible "... to differentiate subjects who seemed to react in a psychologically stable fashion from those who were highly unstable." Persons were screened to delete from treatment those with extreme personality abnormalities. It appeared that the more psychologically stable person was not significantly affected by long-term methadone maintenance, therefore showed little mood fluctuation. Although this study was designed primarily to define procedures facilitating identification of persons suitable to methadone maintenance treatment it is apparent that stable, regular, doses of the opiate did not adversely affect psychological adjustment as measured by the testing instruments described.

Sutker, Allain, and Cohen (1974) utilized the Minnesota Multiphasic Personality Inventory in a test-retest situation with thirty and twenty-eight hospitalized patients and found that there were decreases on nearly all clinical scales and elevations on scales reflecting ego strength and personal guardedness. The thirty subjects utilized were tested on admission and after six months hospitalization while the group of 28 were tested on admission and after confinement in an inpatient setting for only six weeks. Pd\textsuperscript{5} and Ma\textsuperscript{6} remained relatively constant while Hs\textsuperscript{7} and Hy\textsuperscript{8} were sensitive to

\textsuperscript{5}Pd = Psychopathic deviate scale - extent of amorality, associability, psychopathy; flagrant disregard for social customs and mores, etc. (Dahlstrom & Welch, 1960)

\textsuperscript{6}Ma = Hypomania scale - extent of affective disorder of hypomania (overactivity, emotional excitement, flight of ideas) (Dahlstrom & Welch, 1960)

\textsuperscript{7}Hs = Hypochondriasis - a morbid concern about the health

\textsuperscript{8}Hy = Conversion hysteria defense use (Dahlstrom and Welch, 1960)
changes in circumstance. Authors submit that changes seemed most
dramatic under short, intensive treatment conditions. Although
predictions as to what caused the changes would be difficult, it
can at least be assumed that the maintenance provided to the
subjects in all likelihood did not deter improvement.

Two reports, interesting in this context, suggest that the opiate
itself provides short term alleviation or correction of abnormal
behaviour allowing the addicted individual to respond in a more
socially acceptable manner. Brown (1943) and Wellisch, et. al.
(1971) report evidence to support this concept. Brown used the
Rorschach\(^9\) test on addicts during abstinence and under the influence
of morphine while Wellisch, et. al. give clinical evidence de-
scribing the case history of an individual who became psychotic
during periods of abstinence.

Brown's study was concerned with observing the personality
picture of the individual under the euphoric conditions associated
with a satisfactory drug effect. The usual procedure of administer-
ing fixed doses of morphine to all patients was therefore not used
but instead each was given as much morphine as required to produce
the degree of euphoria desired. Methodology included test admini-
stration under morphine and non-morphine conditions to twenty-two
post-addict patients who had been abstinent for at least six months.
In order to equalize the effects of re-testing, half of the subjects
were given the first Rorschach after morphine administration with
retest one month later under non-morphine conditions. Test procedure
was reversed for the other half of the subjects. No patients (mor-
phine or non-morphine) showed any signs of illness during the
actual testing periods.

Results outlined by Brown generally indicate that under the two
experimental conditions, fundamental personality pattern remained
the same, although changes were observed in a few factors. Brown
concludes, that the response total, details, rare details and human
movements were increased. Responses to color were also slightly

\(^9\)Rorschach Test = a diagnostic projective, character test. It has
been declining in use due to negative research and a declining
emphasis on clinical diagnostic testing. (Burstein from Buros,
1972)
increased, but the predominant trend was in the direction of movement to color. Neurotic signs were reduced by morphine. Signs of intellectual control, organizational energy, and originality were not affected. "It therefore appears that under morphine the personality of post-addicts changes in the direction of introversion in the sense of increased phantasy living, with the attention being directed to inner rather than outer stimuli." (p.342)

Wellisch et. al. (1971) begins by stating that between October 1969 and July 1971, over 1,500 patients were treated in the drug detoxification section of the Haight-Ashbury Free Medical Clinic. "Among these patients have been numerous individuals who were using heroin for its tranquilizing and 'antipsychotic' properties. (Reference #5 from Wellisch) The discovery of the antipsychotic effect of the opiates is not new to psychiatry. Prior to the introduction of tranquilizers, opiates were used in Europe to treat severe manic-depressive psychosis and melancholia. (Reference #6 from Wellisch)." He describes one specific patient at Haight-Ashbury who was an accomplished artist. Organized showings of her work were possible while she regularly used intravenous heroin. After voluntary withdrawal she became "acutely psychotic" and required hospitalization.

These reports only scratch the surface of the motivations behind an individual's addiction to opiate narcotic drugs. They suggest that the opiate addict's use of drugs does not make him a degenerate or a deviate but rather helps him to deal with the fact that he believes he is one. In other words, opiates do not initiate moral or degenerative behaviour but probably help the addict to escape his perceived feelings of immorality thus bolstering his self-concept. He may be trying desperately to keep at peace with himself and the world. A look into further work along related lines will enable the reader to draw his own conclusions. Research is diverse in the direction it takes, its intent, methodology, and outcome. But, there are some threads of consistency in reported findings. The reader must bear in mind the difficulty in controlling variables, finding valid research instruments, and interpreting results when social and psychological measurement at best are in developmental stages and when terminology and diagnostic definitions are not always consistent.
THE ADDICTIVE PERSONALITY

Research has not as yet confirmed a specific addictive personality pattern. Such suggestions are hypothetical in that no present measuring instruments appear able to delineate with certainty what this pattern is. There is considerable research support for the addiction prone personality theory but when examined closely it is apparent that research designs did not control or rule out important variables. Even when utilizing the same test instrument, results found are not consistent. Many Minnesota Multiphasic Personality Inventory (MMPI) studies have been carried out on various addict and criminal populations and compared to adult norms. The only real conclusion that seems safe to make is that opiate addict profiles show more deviation from the mean as measured by the MMPI when compared to standardized adult norms. (Sheppard, et. al., 1973; Sutker and Allain, 1973; Sutker and Moan, 1972; Sutker, 1974; Pittel, 1971; Hill, et. al., 1962). In fact, Platt (1975), in an effort to clarify this issue performed an MMPI study attempting to avoid possible methodical problems that might have caused discrepancies reported in other studies. Blind data collection and scoring procedures were used on 27 heroin addict and 20 non-addict subjects. Two groups were compared on 34 personality variables and significant differences found on seven variables. But when education, I.Q., first arrest age, prior arrests, achievement test scoring, religion, and marital status were used as covariates * in a statistical control design, Platt concluded that the significant differences failed to provide sufficient support for an addictive personality hypothesis.

Gendreau and Gendreau (1970) used incarcerated addict and non-addict MMPI profiles in their study only to find that no significant differences were found when two-tailed test comparisons were applied to study results. Thus, like Platt, the work of Gendreau and Gendreau does not support the addiction prone personality theory. The latter researchers utilized 51 incarcerated addict profiles studied over three years and selected 82 non-addict inmate comparison subjects from a group of 1500. The 82 non-addict criminals were selected on the basis of established criteria in an attempt to control socio-economic variables. Gendreau and Gendreau state that, "The negative results suggest that significant differences
between addicts and non-addicts reported in previous studies may have been in part due to failure in sampling techniques. If the control subjects come from a similar socio-economic level as addicts and have a prior criminal record, they produce a personality profile markedly similar to addicts." (p.21)

Still utilizing the MMPI but with a slightly different approach, Panton and Brisson (1971) worked with male drug abusers committed to the North Carolina Correctional System. Selection for the study's experimental group was based on the abusive use of drugs evidenced through case histories.

Drug abuse was considered apparent if the individual's social adaptation was seriously affected by drugs. Conviction of a drug offense, for example, was not sufficient cause. The experimental group and a control group matched for age, I.Q., and race, were administered the MMPI, the revised Beta Examination, and the Wide Range Achievement Test (WRAT). The final number of subjects was 118 experimentals and 118 controls. Case histories of the two groups were analyzed on the basis of family and community background characteristics. Significant differences were determined by the Chi Square Method. MMPI results were organized into three areas and an analysis of variance made on these score distributions for the two groups. Significant profile differences were given further analysis. Harris and Lingoes' MMPI subscales (Ref. 33 from Panton and Brisson) analyzed the differences between individual scales on those group profiles showing significant F-ratios. Further evaluation was made on the MMPI Mf-1 scale and an item analysis technique was applied to the entire MMPI item pool in order to develop a predictive scale for drug abuse. On the basis of this item analysis a 36 item MMPI scale was developed which successfully identified 75% of the drug users and 81% of the non-users. Panton and Brisson were dealing with the following drugs: marijuana, barbiturates, narcotic opiates, amphetamines, hallucinogens, and inhalents, including mixed addictions. In this broad context, Paton and Brisson seem to be suggesting that when enough of the right social and psychological variables act in combination the likelihood that any given individual is a drug abuser is increased. The following highlights of the composite socio-psychological profile of the drug users are of interest:

\[1\text{Mf} - \text{extent of male sexual inversion (latent or overt) homosexuality (Dahlstrom, et. al., 1966)}\]
The drug user has above average intelligence; his educational attainment is considerably higher than the average inmate; he is least likely to have been involved in crimes of violence or sexual aggression and if not convicted of a drug offense he is most likely to have been involved in property crimes; if a hard drug user, there are three chances out of ten that he is addicted; he is a user of alcohol in addition to his regular drug; he began drinking at an early age and prior to inception of drug use; his socio-economic background is considerably higher than the average inmate but his own occupational attainment indicates a downward mobility from that of his parents; his punishment during formative years was probably physical or a combination of physical-psychological; punishment was more likely ambivalent or lax; he would have been an average or above average student; he has a personality disorder characterized by anti-social behavioral patterns; he shows more emotional sensitivity, interest in aesthetic type endeavors, and demonstrates a greater degree of creativity than his non-drug peers, he prefers to maintain social distance, has a low tolerance to frustration, and finds it difficult to adjust to a structured environment to the extent that he will rebel against it; he appears to prefer work that is unstructured and individualistic and has a need for affection and reinforcement but cannot satisfy these needs from external sources; he appears to act in order to satisfy his immediate desires.

Even though no specific addictive personality pattern can be attributable to the majority of opiate addicts or drug users of other types, research tends to support the premise that opiate narcotics are the addict's own means of dealing with his inadequacies and in fact allow him to temporarily function in a closer to normal and more emotionally comfortable manner. Zeidenberg (1975) concludes that the underlying factor in drug use is anxiety about personal drives. Drugs compatible with the personality structure of the user allow him to cope with this anxiety. Jackman (1973) believes that the opiate addict does not possess the basic psychological coping mechanisms ordinarily developed during adolescence. Heroin, and morphine, protect the addict from frustration, depression, and aggression. Sutker and Moan (1972) conclude that the effects or narcotics work to inhibit more generalized, violent outbursts by alleviating feelings of frustration and anger while Pittel (1971)
places the emphasis on impairment in ego functions as the basis for drug dependency. Howe (1973) sees opiates as relieving a sense of fearful despair for the addict, opiates enabling him to no longer feel morally bad, thus his self-concept is redeemed. Despite these variations in specifics the most consistently reported symptom of maladjustment among opiate addicts indicated by this review is that of depression.
Studies suggest that opiate addicts are depressed individuals with the degree of depression reported varying from mild to very severe. Overall results suggest that the greater the severity of depression the less the likelihood of treatment success. There are, as usual, some discrepancies and questions relative to this issue. Sola and Wielund (1971) for example, in reporting to the Committee on the problems of Drug Dependence, point out that most of the objective psychological studies of narcotic dependent individuals have utilized the MMPI which does not discriminate between proneness to depression and depression itself (D scale). E.G., Swerling and Rosenbaum (1959), and Hill et. al., (1962). In their study Sola and Wielund sought to overcome this by utilizing the Zung Self-Rating Depression Scale (SDS), the Beck Depression Inventory (BDI), and the 35 Symptom Check List. They set out to determine the nature of the depressive symptomatology of narcotic addicts and to compare their pattern of symptoms with normals, neurotics, and psychotics. 196 outpatients were administered the aforementioned tests. These subjects represented 80% of the active caseload on the methadone program of the West Philadelphia Mental Health Consortium during the week of October 10, 1969. Subjects were eliminated from study if all test items were not answered. According to the SDS, the only scale on which there is data on a 'normal' population, patients were significantly more depressed (p. < .005) than normals despite methadone treatment and counselling. But, on the BDI, subjects were not as depressed as hospitalized patients rated 'mildly' depressed (p. < .005) or 'moderately' depressed.


12 Beck Depression Inventory - a test of depression which has both normative and research data. It differentiates well between depression and anxiety, (Beck, "Depression: Clinical, Experimental, and Theoretical Aspects, N.Y. Hoeber (1967), all of the above descriptions from Sola & Wielund (1971) 1967) and correlates well with clinical ratings. (Beck, et. al., An Inventory for Measuring Depression. Archives of General Psychiatry, Chicago. 4:561-571, 1962).

13 35 Symptom Check List - used in psychotropic drug evaluation research and was originally derived from a set of items used for the assessment of therapy as well as diagnosis. Frank et. al., 1957; Parloff et. al., 1954; Lipman, et. al., 1968.
Factor analysis of the SCL indicated the dominant symptom to be depression. To determine the nature of this depression and to compare it with populations of non-addict patients, the factor analysis of the BDI and SDS were utilized. The former showed irritability as the predominant factor followed by disorders of appetite, weight, sleep and performance difficulties. The latter indicated performance difficulties as the dominant factor followed by depressive outlook and appetite disturbances. Working from the point of view that narcotic dependent individuals are more dysphoric than normals and less than neurotics and psychotics, Sola and Wielund attempted to assess whether or not there is a causal association of these symptoms and the motivation to shoot heroin. In order to do this they administered an opiate dependency scale (ODS) and an open ended question, "Why did you start to shoot heroin or continue to shoot it, other than to avoid getting sick?" 144 of the previously tested population were administered the ODS and results interpreted to conclude that motivation for continuous use of the opiates was found to be related to emotional conflicts associated with dysphoria and depressive symptoms. The three highest ranking items on the ODS all associate worries, feeling nervous, and depression, with heroin use. Next highest ranking in reasons for continued heroin use were; ability to cope with anger; ability to relate better to other people, alleviation of self-blame; and ability to overcome performance deficit. "Hence, drug dependent individuals themselves associate essentially the same emotional and behavioral symptomatology previously found to characterize them with their motivation for drug use." (Pp 330-331)

Depth of depression and methadone maintenance treatment success were studied by Fisch et. al. (1973). The BDI and the Tennessee Self-Concept Scale were administered to 83 subjects who were current active patients on methadone maintenance at the East Boston Drug Rehabilitation Clinic. BDI scores were tabulated yielding a normal distribution. The length of the treatment for drop-outs and active patients in each category was correlated. All patients provided a baseline TSCS and six months later this was repeated in the low depression categories among those patients still in treatment. This six month later phase further included comparing mean BDI scores in the dropout group and the TSCS Study Group in the high and low depression categories. Mean time in the program was also determined for each of these.

1Tennessee Self-Concept Scale - 100 self descriptive statements with a five point response scale ranging from "completely false" to "completely true." (well standardized and multi-dimensional)
Last, mean BDI score was correlated with relative TSCS change in the low and high depression categories. The most pertinent conclusion here, drawn from the data derived is that the more depressed the patient the higher the drop-out rate from treatment. Patients who stayed in treatment less than the minimal three months tended to fall into a middle depression range, when this group was eliminated, a twin-peaked curve resulted representing the low and severe depression groups. By the end of six months 80% of the low group were still in treatment while only 41% of the high (severe) group remained. When all drop outs were combined the rate of drop out increased so that by the end of nine months close to 40% of severely depressed patients had gone.

Gertler et al (1973) and Friedman et. al. (1973) performed interesting studies looking at death relative to drug addiction from two different perspectives. Since wishing for one's own death or actually attempting to cause it to occur are the extreme in the expression of depression these two works attempted to objectively analyze addict depression from this angle. Gertler et. al. found that, when compared with 20 staff members and 21 psychiatric patients, 21 opiate addict subjects expressed the death wish significantly more often (p.< .025). These subjects were administered a social concerns subscale on death and dying. Sixteen out of 21 drug addicts thought of their own death at least once a month and 14 of them imagined their own deaths as compared to 8 and 7 of the staff and 12 and 10 of the psychiatric patients. 10 drug addicts as compared to 2 staff and 5 psychiatric patients wished they were dead. Test - retest consistency was reported to be high. Friedman et. al. found that some addicts in fact attempted to carry out their death wishes. Surveying 103 MMTP patients, they found that 33% of the study group had at some time taken an over dose. Historical reconstruction of events surrounding the occurrence showed that these were mostly convert suicide attempts. Only 12% were accounted for as accidents and 35% related to incarceration. Woody et. al. (1975) attempted to treat drug addicts by reducing depression through medication. The anti-depressant doxepin was given an experimental group while controls received placebo in a double blind experiment with 35 mildly depressed methadone maintenance patients. Subjects receiving doxepin improved significantly more than controls and although this study was short term, when considered along with the works previously reported it lends considerable weight to the concept of depression as a motivating factor in
drug addiction. In that the study group here was a methadone maintenance treatment population it is important to bear in mind that although the addict may well have begun opiate use in an attempt to alleviate depression the fact that opiates are tolerance producing would cause an eventual diminution of the narcotic analgesic effect, thus without increasing dosage or providing some concomitant treatment, the depression is likely to return in time to some degree. In a strictly pharmacological sense this is especially true on maintenance programs since treatment addicts would logically receive a more regular drug supply than the average street addict. It is possible that this explains the cause for illicit opiate use by methadone maintained or even heroin maintained addicts. A common attitude toward the British maintenance system is that it isn't working satisfactorily because there is still an illicit market. It may be quite true that an illicit market exists but until addicts can obtain a regular drug supply, underlying and causative problems are difficult to uncover much less treat with drugs or otherwise. Woody, et. al., state, "Patients who are receiving methadone treatment and who are feeling this way (sick, anxious or depressed) will often ask for a higher dose of methadone. This situation creates a management problem for the physician. Raising the dose of methadone will usually give relief, but this treatment is effective only until tolerance for the higher dose develops. When symptoms recur the cycle can repeat itself, with the dose going up and no long-term relief provided. Declining to raise the dose or trying to treat the patient with psychotherapy often results in the patient's making a 'street buy' for self-medication." (p.447)

The summation of the above mentioned studies appears logically to be that opiate narcotic addicts are considerably more depressed than the general population which in turn leads them to use drugs to alleviate these feelings of distress. If the reader wonders how a depressant *

*drug relieves depression it should be noted that the categorization of opiates as depressants is a result of the pharmacological action of the drug on the body, primarily on the central nervous system. Opiates are narcotic analgesics, analgesic meaning causing analgesia or loss of sensibility to pain. The term depressant refers to a functional "slowing down" as opposed to a state of psychological depression. "Morphine exerts in man a narcotic action manifested by analgesia, drowsiness,
changes in mood, and mental clouding." "In addition to relief or distress, some patients experience euphoria, an unrealistic sense of well-being. If the external situation is favourable, sleep may ensue and dreams may be prominent." (Jaffe, pp 239-240)

Rado Sandor (1957), in his article Narcotic Bondage indicates that often at the time the patient took the drug he was in a state of depression and felt he was unable to make a "go of it." "This prodromal* depression is a precipitating etiological* factor, because it sensitizes the patient to the psychodynamic action of the narcotic drug." p. 65 "By removing pain, relaxing inhibitory tensions, inducing pleasure and facilitating performance, narcotic drugs produce a narcotic pleasure-effect." (p.165)
SELF-TREATMENT/INSTANT REINFORCEMENT

Whether the addict suffers: anxiety about his personal drives (Zeidenberg), ego deficits with the drug compensating for the absence of inner structure (Pittel), or a sense of fearful despair with opiates redeeming his self-concept (Howe), all of these still reflect one basic theme. The opiate dependent person has a need which must be met. In using opiates he is attempting to fulfill whatever the need/s may be. Certainly to delineate each individual drug dependent person's psychological deficits is essential to successful treatment. But, at this point the primary issue is to identify that the opiates satisfy a need and that the addict's use of the drugs is an effort to treat himself, or in Pittel's words, "... to the extent that any drug serves to stabilize an individual he will become dependent upon it." (p. 44) or, in Murphy's words, "... heroin use is a response which provides the organism with a moderately high degree of instant reinforcement ..." (1968, p. 46)

Pittel (1971), using 37 male and 25 female heroin addicts compared with 100 male and 73 female psychedelic drug using volunteers in a Haight-Ashbury Research Project, concluded that the addict lacks internalized structure and has inadequate ego function. The MMPI profile results developed through his study led Pittel to propose that heroin addiction results from the needs of individuals rather than from the properties of the drug per se. Pittel's sample consisted of patients classified as junkies, transitional junkies, and old style junkies; on the basis of the date of their initial involvement with heroin and adult volunteers who were participating in a longitudinal study of the "hippie" culture. In this latter group, few of the volunteers had used amphetamines, barbiturates, or opiates more than ten times and were daily users of marijuana and hashish and also regular users of LSD and other potent psychedelic drugs. A statistical breakdown of drug use frequency by each group was not provided.

MMPI results showed a similar profile configuration for both groups but the addict group had a higher overall elevation, suggesting a greater degree of psychopathology. Pittel states that differences are significant but does not mention statistical procedures used or levels of confidence for the differences. He also admits that there is no certainty regarding how the choice of subjects of this research limits the generality
of the findings and further asserts that other personality assessment procedures might reveal fewer similarities and greater differences between heroin addicts and psychedelic users. Nonetheless, Pittel suggests that the MMPI has been used successfully to differentiate among various types of psychopathology and yields results in this study which are consistent with observations concerning similarities among users of different drugs. The MMPI profiles in this study, characteristic of both psychedelic drug users and heroin addicts with varying degrees of overt psychopathology reflect a personality organization which is neither primarily neurotic nor psychotic. Those who show this type of profile are relatively immature, lack impulse control, and are more-or-less incapable of maintaining intimate and enduring relationships except, perhaps, to gratify their own narcissistic desires. This general picture is consistent with clinical evidence concerning heroin addicts reported by Chein, Gerard, Lee, and Rosenfeld in The Road to H: Narcotics, Delinquency and Social Policy and with empirical research performed in the Canadian Penitentiary Service by Murphy (1968). Pittel's research and his interpretation of same is that by placing the emphasis on relative or absolute impairments in ego functions as the basis for drug dependency it suggests that neither intra-psychic conflict nor environmental stress play any necessary role in leading to drug abuse. Instead the hypothesis is that ego deficits are themselves the source of considerable anxiety and the drug compensates for the absence of inner structure. To the extent that any drug serves to stabilize an individual he will become dependent upon it.

It is interesting to compare this line of thought with that of Howe (1973) who states briefly that "opiates (and, with some differences, other downs as well) lead to addiction because they damp down sexual and aggressive impulses which the individual has learned to regard as morally 'wrong' or 'bad' and also to fear as dangerous, since he believes that expressing them may lead to their getting out of control -- with devastating consequences for all concerned." (p. 589) Howe is not reporting on a specific study but rather theorizing and supports this general view through works of others such as Wurmsen (1972) and Khantzian (1972) who discuss the function of the opiates in reducing the intensity of sexual and aggressive drives. The ability of opiates to reduce sexual drive
and potency is substantiated in the previous portion of this paper (Opiates and the Human Body) by several well controlled scientific investigations. Rado (1957) and Fort (1954) present general theories of narcotic dependence from a psychiatric point of view that are basically in agreement with Howe's ideas. Rado uses Freud's libido * theory as his conceptual framework and bases his conclusions on clinical experience. "The 'magic' of narcotic drugs lies in their direct biochemical action on the brain, in their by-passing the prerequisite adaptive effort and performance; through this short-cut they surpass nature's ordinary rewards, and whenever desired, lift the organism from pain to a pleasure intensified still further by the contrast. As a sort of super-pleasure, the drug's effect makes an irresistible appeal to the organism's hedonic control, displacing more and more the ordinary pursuits and rewards of healthy life. As we have seen, this substitution involves three mechanisms; one of super-pleasure, silencing the warning signals of danger; another of intoxication, ushering in a delusion which, uprooting the patient's reason, foresight and judgement, sanctions his craving; and a third, of conscience, paradoxically promoting the patient's narcotic self-destruction." "... corrupted hedonic self-regulation inevitably dehumanizes the patient's behavior; it is on this ground that we consider narcotic bondage a malignant disorder." (p. 167)

Fort (1954) also submits his general description of heroin addiction among young men not on the basis of careful statistical analyses or on complete understanding of all complexities involved but rather from his own personal observations of certain factors which seem to him outstandingly clear. Fort's paper is based on studies made during 1951 and 1952 of over 100 young male heroin addicts at the U.S. Public Health Service Hospital at Lexington, Kentucky. The most interesting supplements to those already mentioned in reference to Rado's theory, are Fort's observations that the addict patients viewed their drug as both responsible for all their ills and also the source of their only pleasure. This of course supports Rado's third mechanism referred to earlier, that of conscience, paradoxically promoting the patient's narcotic self-destruction. Fort illustrates this by the terminology his patients use to refer to the drug, suggesting that the basically evil powers of the drug led the addict to call it "junk", "crap", or when spoken with emotion, even "shit." The good side was represented by the name "G.O.M." (God's own medicine).
This apparent conflict is further illustrated by referring to the pleasure derived from the injection of the drug as an "alimentary orgasm" (Rado) which is equated with the oral level in sexual maturity and with the state of bliss which the young infant experiences on receiving warm milk. Fort asserts that reports of patients indicate that this is an apt comparison. When compared with the complicated interpersonal genital orgasm, this pharmacological orgasm has a distinct advantage since it can be accomplished in seconds. Strong, aggressive, sadistic, and guilt-laden feelings seemed to increase the intensity of the orgastic feeling, which was followed by a profound relaxation and sense of contentment. When the drug wore off, of course the old doubts and fears would return and as time for needing another injection neared the drug dependent person remembered only that he nearly achieved his objective of complete euphoria. Hence, Fort saw the process in many ways as a "repetition-compulsion," especially in its earlier stages.

In this respect, opiate addiction sounds very much like compulsive gambling. The thrill of almost "making it" or "hitting the jack pot" supercedes all else, "ushering in a delusion which, uprooting the gambler's reason, foresight and judgement, sanctions his craving." But, the compulsive gambler, guilt-ridden and going home "empty-in-pocket," will return again to his evil, "self-destructive," habit that in many ways can be seen as a "repetition-compulsion."

Discussion thus far has been largely psychological theory based on clinical evidence and experience. Murphy's (1968) study of delinquent addicts (rounders) and non-delinquent non-addict controls (squares) provides objective bases for evaluating some of the concepts presented by Pittel, Howe, Rado, and Fort. Murphy's study utilized attitude scales to test the research design hypotheses. The symbolic components of the devised study scales are reported to be such that they are readily identified with behavioral dispositions indicated in the hypotheses. Scales were appended, approximating ratio scales to each questionnaire item, with a continuum representing repulsion at the 0 end and attraction at the 100 end. Minor and more general attitude scale scores were computed. Data was analyzed by Chi square tests of significance when data was presented in a frequency distribution, while significance tests of variance around sample means utilized the F ratio. *
Murphy's subjects included 27 incarcerated opiate addicts and 27 non-addict controls equated for age, place of residence at age 9, and social class of origin at age nine. Both groups were found to have equivalent ethnic compositions and subjects were further screened by use of the Hollingshead Index of Social Position (Ref. 8 from Murphy, p. 14).

Although the rounders and squares did not differ significantly in ethnic origin, father's education, mother's education, absence of father or, working mother, they did differ significantly in marital status and number of years of schooling (significant respectively at p<.02 and p<.001). Important in the context of theories presented by Pittel, Fort, Rado, and Howe are the following.

Pittel suggested the addict to be immature, lacking in impulse control, narcissistic, and lacking in intimate and enduring relationships. All of these are generally supported by the findings in rounders and squares. Most specifically Murphy found:

Immature/Narcissistic -
Rounders less responsible than squares (social-economic responsibility scale: p<.05)
Rounders less inclined to constructive response. i.e., not inclined to apply for work at many firms daily (p<.01)

Lacking Impulse Control -
Rounders more destructive than squares (destructive response scale: p.<.001)
Rounders less able to defer gratification. i.e. times adultery deferred to avoid angering sick wife. Rounders were less willing. (p<.01)

Lacking in Enduring and Intimate Relationships -
Rounders more uneasy in social communications (overall p.<.001; with strangers p.<.01; with well known persons p.<.02; and with persons known slightly p.<.05).
Rounders felt more rejected (overall p.<.001; lonely p.<.05; disliked p.<.02; rejected p.<.01).

Howe, Rado, and Fort are given some objective backing by significant differences on Murphy's narcotics uneasiness scale. Rounders were found to be less uneasy (p.<.001). It is interesting to note that no differences
in alcohol uneasiness were found. Rounders were also less uneasy with the opposite sex when under the influence of analgesics, most specifically narcotics (p.<.001). Hence Fort's comment "when the drug wore off, of course the old doubts and fears would return ..." is given some statistical credibility.

Different responses were found on the pleasure value of responses for five of 22 items in the rounders and squares study. The score differentials were well beyond the .05 level of confidence, supporting Murphy's hypothesis that the addicts find them rewarding in different degree than the non-addicts. These items are: reading for recreation, pursuing hobbies, talking to strangers, experiencing the effects of heroin, and experiencing the effects of marijuana. Rounders were lower on the first three and squares were lower on the last two. Murphy suggests that because of the high rank of the heroin response for rounders, heroin use is a response which provides the organism with a moderately high degree of instant reinforcement compared to alternative responses and is therefore likely to be utilized with relatively great frequency. It is possible that rounders have a low skill in other response areas and thus receive no reinforcement from them. The study findings generally suggest, according to Murphy, that a lack of skills in certain identifiable reinforcement generating responses is likely to be a key factor in opiate addiction, thus a behaviouristic sort of analysis is appropriate.
PSYCHOSIS AND NEUROSIS

There is no question that in some way opiate addicts are psychologically distinct from the general population. This distinction does not appear to extend to the extreme in that the incidence of psychosis among addicts has been shown by most studies to parallel that of the general population. (Pfeffer and Ruble, 1946; Knight and Prout, 1951; Vogel, 1951). Pfeffer and Ruble, using 600 male addict prisoners indicate only six to be psychotic. This incidence was not greater than that shown in a comparable group of prisoners without addiction, an observation indicating also that the chronic use of morphine is not a cause of psychosis. Vogel's experience in the treatment of drug addiction at the U.S. Public Health Service Hospital in Lexington indicates that over a period of 16 years during which 20,000 addicts were treated, only 2% were considered psychotic. Knight and Prout (1951) showed higher figures with seven out of 43 opiate addicted individuals diagnosed as psychotic. However, Knight and Prout's subjects often had mixed addictions which might account for this discrepancy. 50% of the morphine users also used alcohol and 48% of the demorol,* codeine,* and dilaudid * users used alcohol. The extent of alcohol use was not reported.

Pfeffer and Ruble, Kolb (1925), and Nyswander (1956), conclude that irrespective of incidence, chronic psychosis is not caused by opiates. Pfeffer and Ruble used the Shipley-Hartford Retreat Scale 1 on 25 non-psychotic addicts and 25 controls concluding further that there is no increased mental deterioration or chronic psychosis among addicts as measured by this scale. Data was equated for age and education with the resulting ratio of the difference to the probable error of differences being 1.9. This must be at least 4 to insure statistically significant superiority of one group over another.

1 Shipley - Hartford Retreat Scale - the old version of the Shipley Institute of Living Scale which is a non-projective personality test yielding a conceptual quotient score based on vocabulary and abstract conceptual task scores. Test reliability and validity are poor. (Buros, 1964)
Kolb considered it a safe generality, back in 1925, to suggest that "persons begin their addiction careers with varying degrees of mental and moral equipment that is not perceptibly changed by opium." (p.105) In a study of 25 professional men relative to deterioration from narcotic addiction, Kolb reports that 17 showed no apparent mental deterioration. Of these 17, four had always been "shrinking, fearful neurotics," and interestingly, "one had been a drunkard who had been lifted out of the gutter into respectable citizenship by his shift from alcohol to morphine." The rest included two who were "above average in mental and moral stability, and the remaining ten were evenly divided between average normal individuals and those who were socially useful but had, prior to their use of opium, brought discredit upon themselves by indulgence in alcohol." "Of the eight deteriorated cases, the amount of harm directly attributable to narcotics as opposed to other factors was difficult to determine." (p.106)

Ling et. al., (1973) and Hill et. al., (1960), as well as Pittel (1971) all more or less classified opiate addicts via a variety of diagnostic techniques. Ling et. al. found no psychiatric diagnosis at all for 53% of his 60 young opiate addict subjects while 30% were classified as having anti-social personalities, 2% were considered homosexual and 8% were undiagnosed. Ling states that "The major obstacle in clinical psychiatric research has been the lack of specific diagnostic criteria. This makes it extremely difficult, if not impossible, to compare information gathered from one study with those from another since it is often not possible to determine whether the same diagnosis in two different studies mean the same or different disorders." (p. 429) Studies by Chein et. al., (1964) and Ramer et. al., (1971) report percentages of psychosis or borderline psychosis to be 42% and 41% respectively. Again, lack of uniformity of criteria used to establish these diagnoses plus the fact that these percents generalize to include both psychotic and borderline psychotic, leave these figures fairly meaningless. If diagnostic criteria are to have a meaning independent of other studies, then controlled comparisons are the only means to objective evaluation. Even when studies are based on supposedly objective measures difficulty in understanding and interpreting results occurs since it often takes years for the true meaning
of test results to be apparent. In other words, the MMPI might consistently show different response patterns for two groups of subjects, but the implications of these differences are still difficult to ascertain hence is the test valid? Is it really measuring what it purports to measure. Specifically with regard to the Minnesota Multiphasic Personality Inventory Hill et. al. (1960) indicate that drug addicts had significantly elevated psychopathic deviance and neurotic scales on their profiles while Pittel, also using the MMPI suggests his profile configurations to show varying degrees of overt psychopathology reflecting neither a primarily neurotic or psychotic personality organization. Were the groups different or were the interpretations different?

Despite the mentioned difficulties, Ling et. al believe that their findings of a 30% antisocial personality disorder rate among addicts agrees essentially with the findings of Gerard and Kornetsky (1955). The latter studied 32 institutionalized young opium addicts psychiatrically using an unstructured interview, the Rorschach, repeat Rorschach, human figure drawings, the short form of the Public Health Service I.Q. test and/or the short form of the Wechsler-Bellevue I.Q. test. Gerard and Kornetsky utilized the Mann-Whitney U test for comparisons where numerical data was concerned. The standard error of the difference between proportions (percentages) was determined for evaluation of the significance of the difference between the percentages of the two groups in areas where categorical data was obtained. In an otherwise sound study design, the researchers did possibly bias results in that control subjects were paid for their participation whereas the experimental subjects were not. In any case, Gerard and Kornetsky found overt schizophrenia in six patients and incipient schizophrenia in eight as compared to one and four in 23 controls. Why Ling et. al. consider these findings in agreement with their own is difficult to understand except perhaps in that Gerard and Kornetsky found none of the addicts "normal" whereas 43.5% of the controls were so classified. Defined as in their work, Ling et. al. indicate that major psychoses appeared to be unusual among chronic addicts whereas Gerard and Kornetsky found 14 of 32 addicts schizophrenic. Perhaps they assumed, or knew but didn't mention, that Gerard and Kornetsky were using different definitions.
In the final analysis, again, there are no definitive answers and as was stated earlier the only safe generalization belongs to Kolb, "Persons begin their addiction careers with varying degrees of mental and moral equipment that is not perceptibly changed by opium."
SITUATIONAL ADDICTION

"Very few of the highest type of citizens ever become addicted except through the necessity of relieving unusual stresses. When they do become addicted, they are usually quickly cured when the stress is relieved." Kolb (1925, p.105)

Even though the concept of the "highest type of citizens" can be probed and questioned I believe the relevance of Kolb's statement here is that persons can become addicted to opiates in stressful situations which are temporary and situational. This is generally viewed in a different frame of reference from the chronically addicted person who uses drugs in an effort to fulfill psychological needs that are ontogenetically rooted as suggested by Rado. Examples of situational addiction may be most vividly demonstrated by studies reporting opium dependence among U.S. Military men.

Holloway (1974) studied heroin use among U.S. army troops in Vietnam. Data was derived from the records, pencil and paper surveys, and interviews with 1,150 heroin using servicemen in thirty treatment programs and from military units. Army sponsored urine testing via Free Radical Assay Technique (FRAT)* and Thin Layer Chromatography (TLC)* was used with all, plus the samples were subsequently confirmed by Gas Liquid Chromatography (GLC).* This study was actually a follow-up of several previous studies. E.g., in 1970 a pencil and paper survey by Cookson (reference 4 from Holloway) administered to 1,240 enlisted men in 19 randomly selected companies showed 7% using heroin and 5% using opium. Holloway's study found that the typical heroin user was 18-23 years old, low-ranking, employed in less-skilled jobs, might not have completed high school, and probably used marijuana, alcohol, or other drugs prior to heroin. The author does not indicate directly, but the implication is certainly that the users in this study were compared with the overall army population. In June of 1971, the DEROS (Date of Estimated Return from Overseas) urinary drug screening procedure, utilizing FRAT, THC, AND GLC was implemented and between 12 July and 28 August of the same year, the use of DEROS screening on 41,199 soldiers revealed 5% departing from Vietnam were excreting heroin. Holloway states, "One of the most commonly used phrases in the lingo of American servicemen in Vietnam was "back in the world," used to indicate the existential remoteness of the Vietnam experience from all of his other life experiences. This phrase was used to communicate a sense of deprivation and a hope for a future life in the United States that would have nothing in common with life
in Vietnam. Most users expressed the conviction that, when they got 'back in the world' they would not use heroin because they would not need it." (p.111) In other words, the situation rather than the personality of the individual appears paramount. But, nonetheless, the fact that Holloway's addicts were young, low-ranking, employed in less-skilled jobs, had less likelihood of high school completion and greater likelihood of prior drug use suggests that their degree of psychopathology may not be severe enough to cause the necessity of drug use when they are "back in the world" but when under stress, the drug taking behaviour enabled them to cope. Hence, when the stress is no longer apparent the need for the drug disappears also. Pittel's (1971) concluding statements in his Psychological Aspects of Heroin report, help to clarify the difference between situational and ontogenetic addiction theories. "If we assume that many of the GI's who become addicted in Vietnam do so because they use high-grade heroin in response to situational stress, it follows that their addiction can be stopped by detoxification alone. Labelling them as addicts or treating them as if they shared the psychological problems of those who become addicted gradually in the absence of extreme stress, places them in great social and psychological jeopardy."(p.45)

Kojak and Canby (1975) studied 25 heroin using soldiers with less than 3 years military experience who had served in Thailand at least two months and compared them with 50 controls, age, military experience, and location matched. The heroin users were identified by positive urinalysis for opiates and had a history of daily use for at least one month with the majority having used for three to five months. The controls were chosen at random from complete rosters of the military units in three areas where heroin-dependent men are found. All were voluntary participants as none refused. All controls were found to have negative urinalysis. The MMPI as well as a social history questionnaire was given to all subjects, and only one was required to switch groups because he was found to be heroin dependent. The Shipley Institute Living Scale, work history, and discipline record were also utilized

\[^1\text{Shipley Institute Living Scale - revised version of Shipley-Hartford Retreat Scale}\]
in analysing differences between experimental and control groups. Kojak and Canby found no significant Chi-square relationships for any MMPI scales and their data failed to support dissatisfaction among addicts regarding living or working conditions or as having low tolerance for frustrations. Results also failed to support heroin addiction with anti-social behaviour before addiction. There were no significant differences between the two groups for disciplinary actions or for history of broken homes. The significant differences that were found were:

- Number of years of schooling, (significant at .001) with the heroin users' mean level at less than high school, while controls' mean score showed more than one year of college.
- Work records of the two groups were significantly different at the .001 level in favour of the control group.
- Intelligence was significantly different at the .005 level with the heroin group having average I.Q. but the controls showing a mean I.Q. ten points higher than experimental.
- Pre drug use was significant at the .025 level with the heroin group having used an average of 2.76 drugs shown on the prescribed list and the controls having used 2.04.

Authors simply suggest that the experimental group, the heroin addicts, had less ability to deal with the problems of living.

Although many addicts reported in these studies may be borderline cases in terms of situation as opposed to ontogenesis, the results appear to support situational addiction as a separate entity, especially in view of the following observation by Joseph (1974) who reports on a voluntary three week therapeutic community program for heroin users in Vietnam. This program was a failure because it was designed for heroin users in Vietnam who were psychologically stable. It was discovered that psychologically stable users worked effectively and didn't require the program. Those who did take part usually did so under pressure and apparently had been significantly disturbed before becoming users.
DRUG ADDICTION - A SELF-TREATMENT ATTEMPT
SUMMARY AND CONCLUSION

Addicts appear to share one common symptom, that of depression. This, along with other not as yet delineated personality characteristics may have predisposed the opiate dependent individual to the use of opiate narcotic drugs in order to achieve psychological stability. No sound evidence has been found to support the hypothesis that the use of opiates causes any sort of mental disorder, neurotic or psychotic. Rather, the deviances that have been noted through various studies using clinical evaluative techniques as well as those of an empirical nature, lean more in the direction of suggesting that apparent deviations from the "normal" in all likelihood were present in the addict prior to opiate use.
THE ABSENCE OF READILY AVAILABLE AND SUCCESSFUL TREATMENT MODALITIES

The use of opiates as self-treatment appears effective in the absence of other readily available and successful treatment modalities, hence the opiate addict requires his drug or a viable substitute to meet his psychological and secondarily, his physiological needs.

RELAPSE RATES
METHADONE MAINTENANCE TREATMENT PROGRAM SUCCESS (MMTP)
ABSTINENCE TREATMENT PROGRAMS
WINICK'S THEORY ... THE "MATURING OUT" PROCESS.
WICKLER'S THEORY OF RELAPSE ... CLASSICAL CONDITIONING
SOCIAL FACTORS AFFECTING RELAPSE
SUMMARY AND CONCLUSIONS
RELAPSE RATES

In a society where opiate use is restricted by law it seems apparent that opiate addicts as a group do not enjoy their addiction. Many would willingly discontinue drug use were a comfortable means to do so available. The reasons for this could be various and sundry and are probably largely relative to the hassle involved in the addict's life style as well as the nature of his personality. Stevenson et. al. (1956), in the British Columbia study of incarcerated heroin addicts, studied the psychological, psychiatric, and social aspects of their 100 subjects in great detail. Of the 100 addicts, 69% had voluntarily quit once or oftener. The report indicates that nearly all of the subjects had the desire to be relieved of their addiction after a lengthy experience with narcotics and had a poor opinion of it as well. Henderson's Narcotic Addiction Foundation of B.C. Report confirms this. This 1970 study indicates that the process of addiction took the individuals considerable time. The time between first use and addiction was found to be inversely related to the age at which the individual first used opiates. Also, the short time between first becoming addicted and first attempts to abstain showed that most addicts tried to leave the world of drugs very quickly.

Voluntary abstention with or without treatment seems to be generally unsuccessful. Pescor (1943) indicates that follow-up study of 4,766 males discharged from treatment programs during 1936 and 1940, shows that only 14% were known to be abstinent while 40% were known to have relapsed. Hunt and Odoroff (1962) did a follow-up study of addicts after hospitalization. Of the 1,912 patients discharged from Lexington between 1951 and 1955, follow up was achieved with 1,881 or 98.4%. 90% of the patients contacted became readdicted and 90% of these did so within 6 months after discharge from the hospital. Age proved the most significant variable with men over 30 having lower readdiction rates than those under thirty. Vaillant (1966) reports 10% abstinent after two years for 100 subjects, while Zahn and Ball (1972) found a 20% drug free rate for 108 Puerto Rican addict patients after three years. Richardson (1974), studied 37 males and 6 females on detoxification programs of two types. Only 2% were abstinent regardless of program type.
Wilson (1975), with 40 heroin addict subjects assigned to either hospital or outpatient methadone detoxification found that only a few achieved the drug free state and that of these few all but one returned to narcotic use within two months. Variation in these success rate figures can perhaps be accounted for by variation in both treatment approach and addict needs, characteristics, and social environment. Despite the discrepancies, none can be considered particularly successful if total and lasting abstinence is the measure of success. On the other hand, if the abstinent heroin addict instead becomes an alcoholic is he really cured or is he better off? It is possible that relapse is more favourable than being a "drunken, fighting, psychopath."
METHADONE MAINTENANCE TREATMENT PROGRAMME SUCCESS

In discussing Methadone Maintenance Treatment Programmes specifically, only moderate success has been indicated by reports. The aims of MMTP have been generally to gradually detoxify the addict via methadone while providing counselling support services. Recently the trend appears to be shifting from detoxification to maintenance oriented programs. Most research literature has reported methadone treatment in the United States thus trends may not necessarily parallel those in Canada. Regardless, the relapse rate has been shown to be very high for methadone treatment subjects and methadone itself being an opiate can do little but reinforce the same physical dependency that heroin or any other opiate generates due to their high degree of cross tolerance (Seevers and Woods, 1953). In fact, Isbell et. al. (1949) reports that 15 veteran morphine addicts consistently chose methadone in preference to morphine, heroin, and dilaudid during six months following from 28 to 186 days of addiction to methadone. They rated the methadone euphoria as being the most desirable and longest lasting. Since many Methadone Maintenance Treatment Programs are detoxification oriented, the addict is likely to be back where he began unless something fulfills the need no longer being met by methadone as dose decreases, or unless the need is no longer apparent. If this were the case the implication is that the support services rendered are the essence of the treatment. Stimmel et. al. (1973) reported on the success of 146 dischargees from a total of 490 patients admitted to Methadone Maintenance Treatment between March 1, 1969 and October 31, 1972. Only 8% were drug-free once detoxified. 92% (N=25 or 17%) of those discharged due to violation of rules reverted to heroin. 75% (N=36 or 25%) of those arrested reverted to heroin. 70% (N=74 or 51%) of the voluntary discontinuations returned to heroin. Of the six completing treatment (4%) only three were still drug free at the time of last reporting, 42 months later. Lloyd et. al. (1973) found detoxification successful for 15.3% of his study population, using the criteria of reaching 5 MG and leaving treatment or spending additional treatment in an abstinence modality. Lloyd et. al. state that "While the detoxification modality does not achieve the great degree of success we would like to see, we must realize that all who try it are not the best candidates for success.
Many wanted but did not qualify for maintenance and others insisted on detoxification although they were counselled to enter another modality."(p.279)

Several studies look into the personality characteristics of treatment program drop outs in an attempt to determine causes of program failure or to compare drop outs on a variety of variables. Mention was made earlier that the greater the depression, for example, the greater the likelihood of program failure for a given individual. (Fisch, 1973) Cushman and Dole (1973) did a prospective study of 108 Methadone Maintenance Treatment Program patients on detoxification. The 108 were a select group in that nearly 1/2 were excluded from the study due to reasons of past failure, evidence of behavioural instability, or dose problems. Presumably then, attempts were made to measure success of MMT for those most suited to it by screening out subjects such as those likely to fail due to depression. Of the 108 chosen for the Cushman and Dole study only 18% accepted the program offered giving a final N of 27. 59% of these 27 (N=15) were considered detoxified at the conclusion of the prospective study. Although a 59% detoxification rate appears significant it must be noted that this is only 59% of the 18% that accepted the program. Further, the 18% figure represents approximately 1/2 of the total number of subjects with which the authors report to have begun during initial planning of their study design. Thus the implication is that if MMT programs are selective and the program is voluntary, methadone detoxification may work for up to 59% of the patients. Starting with the original 108, only about 7% were able to achieve short term success.

In comparison studies of drop outs vs non-drop outs, Meyer et. al. (1973) administered a 16 personal factor questionnaire¹ to 271 patients

¹"Form A of the Sixteen Personality Factor Questionnaire (Cattell, 1970 from Meyer et. al.) was administered to all subjects and scored for the sixteen standard source-trait dimensions of personality." Apart from possible advantages to be derived from the Depth Psychometry Approach, there are several additional reasons for selecting the 16 PF to measure source-trait dimensions of personality. First, it enables one to study group profile differences simultaneously on a number of scales considered to be of basic importance in a comprehensive understanding of normal personality functioning. Second, the 16 PF has undergone a rigorous development and revision for many years, resulting in levels of reliability and validity adequate for research purposes. Third, because the test is easily administered in a group setting, it is suitable to mass screening in a program the size of IDAP." pp.754-55 Meyer, et. al. (1973)
entering the Illinois Drug Abuse Program. Results indicated that potential drop outs entering the program are more distressed, tense, anxious, shy, suspicious, and less controlled than those likely to remain in the program. The IDAP deals primarily with the problem of heroin addiction through Methadone Maintenance in conjunction with group therapy and individual counselling. It has followed a policy of admitting any person seeking assistance with a drug problem. The investigation referred to here attempts to focus on normal dimensions of personality functioning as related to treatment drop out. 271 subjects constituted the final sample group, 62 of these being females. To control the effect of sex on 16 PF scores, only the data of male subjects was used in the factor analysis.* Also, to control the influence of socio-economic status only black male subject data (N=158) was used. Scores on the 16 PF scales were compared directly between drop out and non-drop out groups by means of two-tailed T tests and then were also analyzed for more complex relationships by means of factor analysis. Results of this study are confirmed by DeLeon et. al. (1973) and Moulthrop et. al. (1973). Deleon et. al. dealt with addicts in an abstinence community and will be discussed in that context. Moulthrop, et. al. in their reporting to the Committee on the Problems of Drug Dependence state that 93 IDAP patients, 73 of them addicted to heroin at time of admission of treatment were utilized for study. The subjects were divided into two groups: A drop out group no longer in the program as of December 1972 and a non-drop out group who were active as of that date. This study utilized the MMPI, obtaining scores on the three validity scales and the ten standard clinical scales.² Scores on the 13 MMPI scales and 4 factor scales were compared directly between drop out and non-drop out groups by means of two-tailed T tests and further analyzed by means of a factor analysis.

²"The MMPI was selected for use" ... because, it enables one to study group profile differences on a number of scales simultaneously and presents many recognized patterns of meaningful clinical clusters of behaviour as well as normal personality patterns ... and because it has been used extensively on many different populations and is thus familiar to most clinical researchers." (Moulthrop et. al. 1973 p.302)
Results evidence that both groups display high general profile elevations. The mean scores of the drop outs exhibit statistically significant higher evaluations on scales F\textsuperscript{1}, 7\textsuperscript{2}, and 8\textsuperscript{3} (Carelessness and misunderstanding, psycasthenia, and schizophrenia respectively.) The sample used in this study was similar to the overall IDAP population and suggested potential drop outs upon program entry report a greater degree of serious psychopathology than non-drop outs. Mean profile differences show drop outs report more bizarre experiences, more thought and behaviour disorganization, and more anxiety than those who stay with the program. Generalizing, the drop outs have less ability to cope effectively with their environment. The hyperactivity cluster showed no differences between drop outs and non-drop outs. Since no controls were used it is difficult to assess whether this profile was one of low socio-economic status or of drug addicts from this culture. Chappel and Senay (1973) and Levine (1972) used interviews to assess the severity of depression and anxiety in drop outs yet the former had no control group and the latter had difficulty in finding drop outs. In each case it seems possible but not certain that the authors observed characteristics common to all IDAP members. (Review by Moulthrop et. al. 1973)

It appears that treatment of necessity must be as varied as the individuals seeking it, and that for whatever reason, most present treatment modalities are not meeting their participants' needs. Soloway (1974) interviewed 103 active illegal drug users in order to determine the degree of primary methadone abuse and the relation of cocaine use to methadone. Findings contradicted Funding Agency Reports which supported MMTP as responsible for reducing drug abuse and criminal activity as well as encouraging addict employment. It was concluded that methadone has been assimilated into the addict's culture as another form of drug abuse. This may be largely due to the fact that, as shown by Cushman and Dole's report, only a small number of addict's treatment needs are met by Methadone Maintenance Treatment Programs. In other

1 Scale F = validity check (carelessness and misunderstanding)
2 Scale 7 = Pt = psychosthenia (obsessive - compulsive syndrome)
3 Scale 8 = Sc = extent of pattern of schizophrenia
words, if only a small percent of addicts are being successfully maintained or detoxified and their social milieu includes contact with former or present addict friends that are not on methadone, a friend or a friend of a friend in short supply could promote illicit use or sharing of readily available methadone. Further, one unscrupulous, vindictive, or resentful methadone treatment patient that managed to sneak through careful screening procedure could go a long way toward taking advantage of services and supplies rendered him or her. It seems apparent that unless the commodity concerned is freely available to all desiring it the result is likely to include black-marketeering. This at least suggests an explanation for research discrepancies as cited above.

Murphy (1972) designed a quantitative test of the effectiveness of an experimental treatment programme for delinquent opiate addicts. Murphy's study reliably supports methadone as reducing non-prescribed drug use and illegal earnings. Murphy found the following correlations, significant at the .01 level (p.<.01), between non-prescription opiates, prescription opiates, and legal and illegal employment during an 18 month period following treatment. Monthly legal earnings varied inversely with monthly nonprescription opiate use frequency (r=-.5095). Monthly illegal earnings varied directly with monthly nonprescription opiate use frequency (r=.7180). When physically addicted (monthly frequency of nonprescribed and prescribed opiate use combined ≥30<sup>2</sup>), monthly frequency of nonprescribed opiate use varied inversely with monthly frequency of prescribed opiate use (r=-.6351). Further, when prescribed opiate use monthly frequency use was ≥.61, nonprescribed opiate use was just about completely eliminated.

By comparison, the mean monthly frequency of prescription opiate use (methadone prescribed by the Narcotic Addiction Foundation of British Columbia or via private M.D.) correlates -.11 and -.13 with % of time illegally employed and illegal earnings respectively. Neither relationship is statistically significant. Thus, illegal

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<sup>1</sup> Treatment briefly described in Section titled "Abstinence Treatment Programmes." P. 40

<sup>2</sup>= (greater than or equal to)
employment is significantly associated with consumption of illicit opiates but illegal employment is not significantly associated with consumption of legal prescription opiates. A quantitative measurement of the incarcerated addicts and non-addict control subjects' behavioural changes was made. This was carried out by interviews establishing the inmates' legal and illegal employment, and frequency of opiate use during the two years immediately prior to beginning sentence and the 1 1/2 years immediately following the end of the treatment programme. This 'end of treatment' resulted in supervised parole for all subjects. Murphy comments that ..." ... although consistent with the hypothesis that illicit opiate use rates can be manipulated downwards by prescribing opiates, the data from this treatment experiment does not conclusively demonstrate that. The questions of biased self selection and biased therapist selection of clients are two factors that make firm conclusions impossible from this data." p.38
ABSTINENCE TREATMENT PROGRAMS

In research related to abstinence communities or other types of treatment approaches, some interesting findings are noted. DeLeon et. al. (1973) reporting on 184-189 addicts attending the Phoenix House Abstinence Community found that they scored consistently in the psychiatric range on all scales used. The magnitude of the pathology was significantly lower for residents in the later stages of the program. Scores also dropped significantly for a group of residents retested after 7 1/2 months free. Residents who left the program without clinical advice revealed significantly higher pathology scores than the remainers. Again, this suggests that those who did not suit the treatment left earlier in the course of the program as well as the possibility that the greater the pathology the greater the likelihood of drop out.

Murphy (1972) studied two types of treatment programmes with 14 and 12 incarcerated addicts. Generally, one group was involved in a traditional authoritarian type program while the experimental group had a freer and more open treatment approach. The latter group was found to be less effective in decreasing the percentage of their time spent in illegal employment and in decreasing their mean monthly frequency of opiate use. In other words, the experimental treatment group became better able to perform the skills they already possessed rather than learning new skills that would enable an attitudinal change toward illicit drug use and illegal activity. Vaillant (1966), with 100 male heroin addicts, 75% of them being volunteers, found that the length of short term abstinence appeared positively correlated to length of hospitalization. 96% of all who sought voluntary hospitalization relapsed within a year. The most significant variable appeared to be the presence or absence of constructive but enforced compulsory supervision. This in fact coincides with Murphy's work since it was the more rigidly disciplined group in the Murphy Study that behaved or performed better by commonly accepted standards. This is reinforced by the works of Earl, et. al., 1973; Zahn and Ball, 1972; Hunt and Odoroff, 1962; Ball, Thompson, and Allen, 1970; Vaillant and Rascor, 1966; and Levine and Munroe, 1964. Jones (1958) observed a 92% success rate (completion of probation and return to practice) when physician
patients had to present continual evidence of abstinence. Of course, these addicts may not be "pure dissipators" since medically addicted persons or those from higher socio-economic stratas of society appear to have better odds when it comes to treatment success. This is supported by a variety of studies some of which are reported elsewhere in this presentation (Ross, 1973; Zahn and Ball, 1972, Krakowski & Smart, 1974; Kojak and Kanby, 1975; Holloway, 1974; Strelinger, et al. 1973).

But, judging by generally high relapse rates among the more conventional addict populations, supervision may or may not be the most logical answer. There does seem good reason to believe that supervision, time, maturation, or a combination of all three have some bearing on the addictive cycle. Vaillant's 12 year study found only 4% of 100 addicts who later sought voluntary hospitalization remained abstinent one year whereas 67% of those in jail 8 months or more and then paroled for a year or more were abstinent. These improvements over time may be due to treatment or simply the natural course of addiction as suggested by Winick (1962).
Winick's Theory

Winick (1962) advanced the theory that by their mid-thirties most addicts spontaneously become abstinent. Addiction, beginning in late adolescence burns out when life stabilizes through some sort of emotional homeostasis. Winick's evidence for this theory came from drop out files of the Federal Narcotics Bureau (FNB) which showed an approximate 2/3 drop out rate (addicts removed from files). Ball and Snarr (1969) indicate from their work that this "maturing-out" process may be true for as many as 1/3 of addicted persons. If this is true, then the low treatment success rates discussed earlier would not show this trend as these follow-ups were usually too soon to reflect the "maturation" concept. The Winick Theory can perhaps be considered to have some support from abstinence records presented by Duvall et. al. (1963) for example. A sample of 453 patients selected from 1,359 discharged during a three year period were followed for five years. Although more than 97% became readdicted at some time during these five years, by the fifth year after discharge only an estimated 46% of the study group were readdicted and 49% were abstinent. Vaillant (1966) found 41% of his patients abstinent and living in the community by the end of 12 years. Henderson (1970) studied narcotic addicts in British Columbia and suggests that "... treatment can also be seen as a part of the addict's cycle of addiction, withdrawal, abstinence, and build-up to readdiction, for the nature of narcotic drugs makes it necessary for the addict to withdraw periodically so that the drug may produce its original effect. Thus the length of treatment may indicate in some cases a desire to rehabilitate, but in others only a desire to reduce a heavy and expensive habit." (p.63) Henderson's study found that there was a tendency for those with a long span of addiction (over 20 years) to be more extensively involved in treatment, which may be accounted for by the inability of the older addict to support an illegal habit as his skills as a criminal and his commitment to the life of an addict diminish. Studying 154 addict mortalities Henderson found through police and court records that as age increases, contact with police and courts decreases. Thus, if addicts do taper off, the reasons for this are hypothetical at this point. Henderson's critique
of Winick's theory led him to the conclusion that some of Winick's figures must be misleading and inaccurate as other information covering the same groups of addicts indicates evidence to the contrary. In any case, perhaps this is not a critical issue except as it relates to treatment efforts. If the addict requires opiate narcotics in some form for indefinite periods and essentially the drug used is not harmful, then treatment may be a secondary issue. If he only requires the drug for a shorter period then he will use it only as long as it is necessary to his comfort or until the risk or effort outweigh the perceived gains. Many people terminate cigarette smoking after years of habituation. The same comparisons can be made with cigarettes. Do people "mature out" and/or settle into a comfortable life style making it easier to quit smoking? Or, are the risks no longer worth the apparent gain? Music maniacs and mountain climbers rarely abandon their habits until deafness or infirm limbs resulting from aging demand it. Why should that not also be true of those addicted to tobacco use, alcohol use, gambling, or opium use? If Winick is correct, or even if he is not, it is definitely less expensive to supervise addicts in some form of outpatient treatment or maintenance program than to incarcerate them. The cost of treatment of incarcerated opiate addicts at Matsqui Institution (A Medium Security Canadian Federal Penal Institution in British Columbia) was $731/man/month in the 1969/70 fiscal year (Murphy, 1972). This amount was based on accounting records in the institutional and regional accounting offices and is estimated to be accurate within 10%. Further, this man-month cost accounting does not include court or law enforcement expenses nor does it include losses due to predatory crime.

From a purely economic position legalization of the opiates would no doubt make the largest contribution to the public purse. Maintenance, counselling, and supervision without incarceration should rank second, with incarceration finishing last. A proposed 56 month behavioral engineering treatment program of a community based nature was estimated to cost $463/man/month. (Murphy, 1972) This figure included the following services: Academic upgrading, vocational training, employment seeking, training and job placements, methadone maintenance and withdrawal, recreational and sociological training services, opiate aversion treatment therapy, and special employment counselling and unemployment maintenance.
WIKLER'S THEORY OF RELAPSE

The most widely advanced theory of relapse to opiate self-administration was proposed by Wikler and explained in a report by Schuster and Johanson (1974). It is postulated that withdrawal is classically conditioned* to stimuli* in the environment through repeated association. These stimuli are capable of eliciting the abstinence* syndrome even when the organism is no longer physically dependent. To illustrate, the most direct comparison can be made with the famous Pavlovian experiment. Pavlov, in working with dogs noticed that the dog salivated not only when he was chewing food but also at the sight of food. Placing food in the dog's mouth brought an automatic, unlearned response in the form of salivation. Salivation occurring at the sight of food however, was learned. This is of course very basic but is what Wickler suggests causes the addict to return to opiate self-administration after extended periods of abstinence and when he is not physically dependent upon the drug. Pavlov went one step further by trying to discover how this response was learned. As most probably recall, he conditioned a salivating response to the sound of a bell by ringing the bell shortly before presenting food. Soon the bell alone produced salivation, as the dog learned to anticipate the presence of food after the ringing of a bell. Hence, the addict learns that an intravenous heroin injection relieves his anxiety and makes him feel good just as the dog learned that food relieved his hunger and made him feel good. When the addict is in the presence of the same friend, this stimulus may cause him to respond by administering heroin in the same manner that the dog learned to respond to the bell. Both anticipate the previously learned pleasurable experience (relief from anxiety and relief from hunger) because it has been associated frequently enough with the stimulus (friend or bell). Thus, once the addict has been conditioned to opiate self-administration he is compelled to continue its use until such time as the conditioning can be reversed or until he no longer sees his friend. Even then, there is still the issue of why he came to use the drug in the first place, so regardless of how one views the issue, the addict in some way required the drug.
Murphy's (1968) Rounders and Squares Study led him to suggest a similar theoretical formulation indicating that if the personality problems of the addict do induce him to opiate use and if these problems can be defined in behavioural terms, a lack of skills in "... certain identifiable reinforcement generating responses is likely to be a key factor. It might then be possible to dispense with the 'mental illness' explanation and to utilize a behavioural sort of analysis ..." in formulating treatment approaches. In closing, Murphy indicates that if extinction (of a conditioned response) is considered as a process of progressively reducing the magnitude of a specified range of responses to a specified range of stimuli it should be possible to extinguish opiate use and illicit enterprise responses. This would depend upon identifying and subsequently modifying the variables which reduce and those which increase the response concerned.

It becomes more and more clear that once the use of opiates is found to fulfill a need, its continued use is assured. No one will question that, under unlimited access conditions, opiate narcotic and for that matter, barbiturate self-administration may occur at sufficient rates to induce physical dependence if the unit dose is sufficient. Woods and Schuster, (1970); Woods and Schuster (1969); and Schuster and Villarreal (1968), have suggested that physical dependence alone is neither necessary nor sufficient to account for the reinforcing efficacy of narcotics. A 1968 study by Woods and Schuster showed that morphine would act as a reinforcer without causing physical dependence by conditioning monkeys to work for food, water, and drugs at separate times each day. The onset of the abstinence syndrome after withdrawal from the opiate is the accepted gage of physical dependence. The monkeys described here were also trained to work for morphine on a continuous reinforcement schedule. Drug availability was shown by a light. Variable doses were used including saline to see which produced withdrawal. Results showed that, even with doses which did not produce withdrawal and thus physical dependence, morphine still acted as a reinforcer. That the need for opiate narcotics is both psychological and physiological is apparent. That the need may also be social should be considered too.
SOCIAL FACTORS AFFECTING RELAPSE

Interviews with addicts have indicated that craving for the drug and the need for social contact with other addicts were the main causes of relapse. Males felt craving was the most important while females indicated loneliness, boredom, and depression as most important reasons. Henderson, (1970) also studied 154 addict mortalities and found that the place of death of the addict revealed something of his drug using patterns. Most died at the same place they had fixed. The addict's locale at the time of study was diffusing within the city as apparent by place of death. 45% were on skid-road and 41% in private residences or outside the city altogether. Older addicts tended to die in the hospital or in the skid-road area while there were no 21-35 year old addict deaths in the hospital. Addicts who died in prison or the city jail all did so before age 50. So, whether these older addicts are "maturing out" or "giving up" is still open to debate. But, there is no question that if somehow the addict could maintain a closer to normal or acceptable lifestyle he would have a better chance at not only survival but material comfort and peace of mind.

Quatrone (1973) found that the earlier the age of addiction the less likely the addict would have been involved in conventional patterns of social behaviour. With an N of 500 subjects this researcher found that addicts over age 35 were more likely to remain in treatment while patients 21-35 were more likely to drop out. Duvall et. al. (1963) noted that age appeared as an important factor in voluntary abstinence with the discharges over 30 showing a significantly higher rate than their younger counterparts. The older addicts were also significantly more able to remain drug free. In follow-up evaluations of addict detoxification in-patients Strelinger et. al. (1973) found that drug free people had changed friends. This information was ascertained by administering open-ended questions to the study's follow-up patients. With an N of 23, when asked "If the subjects had changed their social settings or friends, the majority who were regretful of their present position and were uncertain of future goals had not changed their drug oriented social setting or peer network; those who were more strongly motivated had become closer to their family and changed their drug social network." (P.467) Ross (1973) conducted a study to determine
what effect participation in an MMTP played on a client's place of residence. Data concerning place of residence given to staff by applicants and clients at the time of entry of clients into the program was studied. 109 individuals entered the program and remained with the program 12 months later. Home addresses at the time of entry and after twelve months were compared. In addition, basic information was obtained on demographic employment and drug characteristic of the clients at the time of entry as compared to one year later. Authors conclude that those clients who stay away from drug using-neighborhoods are most likely to remain drug free. "There are distinct social and demographic differences between those who remain resident within the inner city area (high drug use incidence) and those who move to the outer city area (low drug incidence). (p.561) Hence the conclusion is that for a large group of the treatment population, in this case almost 40%, termination of illegal drug use meant moving physically away from high drug use areas.

Perhaps it takes nearly a life time for the addict to be convinced that it is worth the effort required in order to abstain. Scher et. al. (1973) and Bayer and Kremen (1973) propose that the addict in treatment doesn't really intend to quit. This coincides with the proposition that abstinence in a treatment center, jail, or abstinence community is part of the overall addiction cycle. Randell (1973) worked with MMTP patients and asserts that the addicts themselves feel that society's prejudice against them presents employment obstacles. If one is continually thwarted it is easier to give up or to go back to that with which one is familiar and comfortable than to plod ahead when the end result is not clear. Henderson (1970) reiterates this by suggesting that addict's life does not permit him gainful employment thus he is not likely to stay with a job or conventional behaviour patterns since neither enable him to meet his drug needs. Stevenson et. al. (1956) adds that the addict that is able to abstain can do so because he finds and keeps a better value system, but when he cannot he does not and thus reverts to drugs. Williams et. al. (1973) note that relapse is very easy for the addict because any suggestion of change gives him an excuse to go back to his drug. He is anticipating what he thinks is going to happen. The addict prepares himself mentally for the after-effects of abstinence and expects any sign of withdrawal he's heard about. One can also logically expect that anticipation of difficulties not necessarily of a physical withdrawal nature could also provide excuse to relapse.
THE ABSENCE OF READILY AVAILABLE AND SUCCESSFUL TREATMENT MODALITIES

SUMMARY AND CONCLUSIONS

Since as yet no reliable and effective treatment of opiate addiction has been developed that satisfies the needs of more than a small group of addicted individuals, it is logical that treatment is either not necessary or practical, or that satisfactory treatment methods have not as yet been found or employed on a widespread basis. If treatment is not necessary then opiate maintenance is an alternative to incarceration. If treatment is not practical, again opiate maintenance could provide a humane and inexpensive alternative to incarceration. It does appear that scientifically based treatment breakthroughs are on the horizon. Based on research evidence for example, slightly depressed addicts that are dissatisfied with opiates may be good candidates for programmes aimed at eventual abstinence. Heavily depressed addicts, satisfied with opiates, may be good candidates for perpetual prescribed opiates. Both of the above are dependent upon dealing with or treating the addict's psychological needs while providing necessary supports be they job counselling, psychotherapy, behaviour therapy, or opiate maintenance.
OPIATES WILL NOT HARM THE ADDICT OR SOCIETY

Opiates will not harm the addict or society if considered and dealt with in a medical context for the treatment of a pathological disorder.

PSYCHOMOTOR PERFORMANCE AND MENTAL EFFICIENCY
SOCIAL INFLUENCES
CRIME
SUMMARY AND CONCLUSIONS
The immediate and long term effects of opiate narcotic administration have been studied extensively utilizing varied approaches and settings for a number of years. Some work involves subjective case reporting of addicts actively involved in community living while using opiates (Kolb, Selwyn, and Cutting). Other work has utilized institutional settings for experimentation. One researcher addicted, stabilized, and withdrew two post-addicts in an institutional setting, over a two year period, studying their behaviour extensively during this time (Brown). Other studies used objective test measures on institutionalized drug free post-addicts (Platt et. al., Bruhn and Maage), or on non-institutionalized non-addicts (Bauer & Pearson, Kornetsky and Humphries). Korin, Fraser et. al., Macht and Macht, and Brown and Partington tested both addicts and non-addict controls while under the influence of drugs with their orientation or conclusions directed at perceptual disturbances resulting from drug use. Dimmick, Partington, and Hall tested addicts and controls relative to duration of drug use and intelligence while Knight and Prout, Stevenson, and Brown and Partington report on addict I.Q. per se. In the final analysis, regardless of whether or not experimental subjects were opiate addicts, post addicts, or non-addicts, no long term impairment in psychomotor functioning or mental efficiency was found. Further, even the immediate effects of opiate administration did not sufficiently affect the subjects concerned so as to render them unable to carry out every day tasks, be it solving arithmetical problems, working in heavy industry, or fulfilling the duties of a physician.
Kolb (1928) surveyed the personality and life history of a selected group of 119 medical addicts. This study was undertaken to determine the characteristics of this class of addicts relative to susceptibility to addiction and the effects of narcotics on them. Industrial efficiency was measured by evaluating the regularity and reported satisfactory or unsatisfactory work records of the individuals concerned. Kolb asserts that none of the "normal" persons who became medically addicted (32.8% of 119) had their efficiency reduced by opiates as judged by output of labor and by the addicts' own statements. Those who worked irregularly due to laziness, temperament, personality, drunkenness, or prostitution or who had long periods of idleness for any reason were considered as having poor industrial records. Industrial record was good or fair in ninety cases and irregular or poor in 29. The causes for the poor work record were: Drunkenness before addiction or during abstinence (N=8), disease or conditions incident to or following war service (N=5), repeated attempts of neurotic persons to cure their addiction (N=6), physical diseases (N=3), prostitution (N=1), asthma and neurosis combined with attempts to cure addiction (N=5), shutting off of regular narcotic supply (N=1). Following an injury that mutilated one arm, the patient to which the last reference is made "had taken an opiate and worked on a farm to the best of his ability for 43 years — until 1916. He then wandered from place to place looking for the morphine that he could no longer get at home." (p.177) Kolb further points out that, "In studying the effects of opium on the efficiency of addicts, it is difficult to separate the effect of the drug itself from the effects of the disease for which it is taken and the psychopathic traits that make it so attractive to certain persons."

Since this observation in 1928, it seems clear that the effect of the drug itself is dependent upon the reason for which it is taken but it is of interest to note that even 48 years ago questions were being asked the answers to which are still being sought today.

The industrial record of opiate addicts, or the ability to successfully hold down a job has also been evaluated by Cutting (1942), Selwyn (1972), and indirectly by Kojak and Canby (1975). Cutting did a case report on an 84 year old physician who took morphine for 62 years via medical channels and took at least four cures with the longest period of
abstention being six years. Results of physical examination and psychological testing of the subject lead the author to conclude that moderate morphinism does not necessarily interfere with the regular activities of a professional person during a normal life span. Selwyn found that unlike heroin addicts, nine poppy capsule dependents were in good physical health and could hold down jobs. Poppy capsule dependents eat the poppy capsule and thus do not suffer the adverse effects of the intravenous method of opiate administration. Kojak and Canby did find differences between heroin addict servicemen and controls in work record but could not attribute this to the heroin.

Selwyn's study of poppy capsule dependents showed no evidence of functional psychosis or organic brain impairment on the basis of mental state assessment. More important here is the fact that all but one patient continued employment in heavy industry. Pursuit rotor, a measure of psychomotor skill was administered before treatment and one month after withdrawal had been attempted. Auditory and visual reaction times were not changed but a significant improvement in psychomotor skill was found in the group which had shown significant reduction in drug intake. Since those dependents who did significantly reduce drug intake improved in psychomotor skill, the effects of the opiate were in all likelihood not permanent, and as suggested by Fraser, et. al. (1963), could be due to a reduction in response to ambient stimuli rather than to direct psychomotor impairment. This is also supported by the work of Brown (1943) where interpretation of Rorschach results showed that addicts were more attendant to rare details at the expense of wholes. In other words, perhaps the addict becomes attentive and involved in specifics as he is not readily aware of the other environmental influences which "normals" ordinarily notice.

Brown (1946) studied two morphine addicts extensively. Studying over a two year period, Brown investigated the physiological and psychological effects of morphine and morphine addiction during and following the development of dependence. Measurements were made on Johnson Code Learning, sensitivity to electric current, steadiness, tapping speed, continuous subtraction, scriture's block oscillations, immediate and delayed recognition of nonsense syllables, voice and hand response time, and other physiological reactions to work stimuli.  

1 Johnson Code Learning, etc. - The tests mentioned here measure sensory response, psychomotor skill, memory, and learning ability.
Results showed that morphine addiction reduces efficiency but that the effects were not sufficient to disrupt general working efficiency of the subjects. It was further concluded, due to the reduction of the differential response to disturbing as compared to non-disturbing word stimuli, that morphine is capable of ameliorating the disruptive effects of personal and social conflicts.

Korin (1974) and Fraser et. al. (1963) both suggest that whatever mental functioning disturbance might exist in opiate addicts, are due to perceptual disturbance rather than actual debility resulting from long term drug use. Korin used 27 heroin addicts and 17 non-opiate users, psychotic and non-psychotic, on the Bender-Gestalt Test,1 The Kent Series of Emergency Scale, 2 and the Multiple Affective Adjective Check List. Analysis of variance* and convariance* showed heroin addicts significant at the .01 level on the Bender-Gestalt. Psychosis effects lacked significance on any test. Since constricted use of space and a tendency to rotate designs along with preservations were significantly more frequent in heroin patients the authors concluded that heroin addict patients show marked perceptual disturbances.

Fraser et. al. performed a carefully controlled experiment discussed in detail in the preceding report (Opiates and The Human Body). He found that depressant effects on activity observed during chronic heroin administration were not due to debility or psychomotor impairment but rather suggest a reduction in response to ambient stimuli.

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1 Bender-Gestalt Test – A projective and nonprojective clinical diagnostic character test. It is generally used for differential diagnosis involving organicity but not for other types of differential diagnosis or for evaluating personality dynamics. It is used to detect brain damage. (Buros, 1972)

2 Kent Series of Emergency Scale – An individually administered intelligence test designed originally to aid examiners in deciding at what mental level to begin more formal examination of subjects. Correlates well with the Wechsler-Bellevue verbal scale and The Stanford Binet intelligence tests. (Buros, 1953)
Macht and Macht (1939) gave small injections of heroin or morphine to 25 non-addicts and found their reaction time greatly slowed when it came to solving arithmetical problems. But, the number of errors was not always increased. These subjects were college students and opiate naive. Brown and Partington (1942) compared matched groups of addicts and attendants (N=42) each on performance with Ferguson Form Boards, analogies, number series completion, maze, knox cubes, healy picture completion II, preservation, memory for names and faces, paper from boards, Whipple's cancellation of forms test, block counting, and distributed attention. They concluded that addicts did not differ significantly from non-addicts in performance of tests measuring that type of intelligence which does not involve speed. Addicts were consistently though not significantly faster than attendants but showed a lower preservation rate. This means that their mental impressions were of longer duration, hence the addict would perform mental processes requiring sequential thinking more slowly.

Because Fraser's work as well as that of many researchers, was performed on incarcerated or institutionalized subjects, the work of Katz and Steinberg (1972), as it relates to social isolation is especially important. Rats grouped according to (A) isolation or (B) grouped living conditions were treated with morphine. Morphine dosage affected activity but more interesting in this context are the results regarding effect of social isolation on spontaneous activity and morphine-induced analgesia. Forty days of isolation increased the analgesic response to morphine. The same rats did not differ when given

1 Ferguson Form Boards, Etcetera - The tests mentioned here are individually administered aptitude and non-verbal tests of intelligence.

2 The method used in this experiment was similar to that described by Green and Young (Ref 11 from Katz and Steinberg), with modifications by Morton (Ref 12 from Katz and Steinberg). Compressed air was allowed to leak from a gas cylinder through an open tap. When the tap was closed, the air passed through a resistance into a 10 ML glass syringe in parallel with a mercury manometer. The syringe plunger had a pointed end and was driven down with a constant rate of pressure increase onto the rat's tails, one centimetre from their tips. A 'quick-release' device was included. The threshold pressure for a 'struggle' response was determined by an independent observer (the cut-off pressure was 300 MG HG), and three consecutive readings were taken from each animal. (p 88)
saline. Thus, in contrast to results obtained via Y maze experimentation, the isolated rats were more sensitive to the analgesic effects that the grouped rats. Grouping and isolating animals did not seem to affect their acquisition of dependence on morphine or the intensity of withdrawal. This may have notable implications for experimentation with human subjects who are incarcerated as this is a form of isolation.

Dimmick (1938), Partington (1942) and Hall (1932) all found that the duration of drug use is not related to intelligence. Partington used the scores of 132 male addicts of both young and old age groups from the Revised Babcock Examination for the measurement of mental deterioration. These were compared with the original norms set by Babcock’s 264 subjects. Partington found that addicts were less efficient than non-addicts but that this level of efficiency had no relationship with duration of drug use. He concluded therefore, that the mental deficiencies of addicts existed prior to drug use, suggesting a causal relation between the mental inefficiency found and the development of addiction. Hall also notes that drug addiction is associated with a slight inefficiency of mental function as revealed by the Babcock test. No significant relationship was found between efficiency index and relative severity of addiction and retests prior to discharge showed no significant increases in efficiency. Thus Hall’s results suggest that the inefficiency was present prior to addiction. Bruhn and Maage (1975) studied the intellectual and neuropsychological functions of young men with heavy and long term patterns of drug abuse. The purpose of their investigation was to answer two questions: Does heavy, long-term drug abuse result in neuro-psychological impairment, either in the form of dementia or in more selective cognitive deterioration. Are certain drugs (hallucins, stimulants, and opiates) especially detrimental to cognitive abilities of the user?

1 Grouped rats were affected by morphine as shown by the fact that their number of entries into the arms of the Y maze was depressed. Housing or saline injections, unlike morphine, did not differentially effect grouped and isolated rats. Both control groups seemed equally active.

2 Babcock Test - a test of mental deterioration involving repetition, initial learning, recall and recognition, motor skill, perception time, and the like.
87 randomly selected volunteer male subjects from a sample of state prisoners in Copenhagen were utilized. Exclusion criteria included acute or chronic physical disease, acute or chronic gross psychopathology, evidence of damage to the Central Nervous System from other than drug causes, and sensory or motor deficits influencing the subjects ability to take the test battery. Subjects were divided into four groups:

Nondrug users - N = 23
Cannabis plus Hallucins - N = 22 (all used for 2 - 8 years)
Cannabis, Hallucins, Amphetamines - N = 20 (cannabis used for 3 - 6 years, amphetamines for 1 - 7 years)
Cannabis, Hallucins, Amphetamines, and Opiates - N = 22 (cannabis used for 3 - 6 years, amphetamines for 1 - 6 years, synthetic opiates for 1 - 5 years)

The four groups were carefully matched for age, education, and number of years spent in a public or private institution. Subjects were given the Wechsler Adult Intelligence Scale (WAIS), The Halstead Category Test, Learning and memory tests, Seashore Rhythm Test, Hidden Patterns Test, and a continuous reaction time test.

1 WAIS - individually administered adult intelligence test
2 Halstead Category Test - a sensitive indicator of brain dysfunction
3 Learning and Memory Tests - Verbal learning test of 15 paired associates and a visuospatial learning test involving reproducing 4 complex geometrical designs
4 Seashore Rhythm Test - Auditory test evaluating auditory perception accuracy, short-term memory, sustained attention, and general CNS dysfunction
5 Hidden Patterns Test - Evaluates one's ability to analyze complex designs and to detect a certain pattern
6 Continuous Reaction Time Test - Measured the motor response latencies to visual stimuli on an electronic clock (up to 1/100 of a second). Subject required to concentrate on a monotonous task for about 10 minutes.

All of the above taken from Bruhn and Maage, 1975.
Results found no significant differences among any groups on the WAIS. Not even a tendency toward lower I.Q.'s was found in the more severely drug abusing groups. On the neuropsychological test battery the Kruskal-Wallis one-way analysis of variance by ranks was used to determine whether differences among groups were significant. There were no such significant differences found. No deficit in concept formation or utilization on an abstract level was found. Learning capacity and memory, both verbal-associative and visuospatial were well preserved. No impairment in auditory or visual perceptual efficiency was found and no retardation in continuous reaction time was evident. "Thus the answers to our questions are that drug abuse does not lead to a general or selective intellectual impairment and that certain types of mind-altering substances (hallucinogens, stimulants, and opiates) do not impair the intellectual functioning of the user." (p.400)

Bauer and Pearson, at the USAF School of Aviation Medicine, administered morphine, saline, and morphine-nalorphine mixtures to 96 experiment naive, male air force basic trainees who volunteered to receive an injection. Six different drug treatments were used in the study. They included placebo, morphine control (8 MGM), mixture (8 MGM morphine and 1 MGM nalorphine), mixture (8 MGM morphine and 2 MGM nalorphine), mixture (8 MGM morphine and 4 MGM nalorphine), and nalorphine control (4 MGM). The objective of this study was to evaluate whether or not the undesirable side effects of morphine could be antagonized (nalorphine) while retaining the analgesic potency, thus providing a clinically useful but less hazardous treatment for ambulatory patients. Subjects received preliminary training on a compensatory pursuit task involving simulated aircraft instruments and controls. Paired subjects were given five cycles of initial learning to establish a substantial level of skill. This was followed by an interval (14 minutes) during which one subject and then the other was given a drug treatment according to experimental design. An indoctrination describing the four hour work period followed. The subject's performance was continuously observed and recorded for each work cycle. No subject could

1The Perceptual-Motor Task, USAF Sam Multidimensional Pursuit Test (CN 813E) (Melton, 1947); Payne and Hauty, 1953) required the subjects to manipulate throttle, stick and rudder controls to compensate random movements of four instrument pointers from the null position. When the four pointers were simultaneously centered, a timer was activated which cumulated an accuracy score in units of 0.01 minute. Two copies of the test apparatus were used in testing of subjects in pairs. A common cycling device metered out alternate work trials of one minute and rest periods of 15 seconds. (p.258)
observe another's performance, and illumination, noise, and temperature were controlled. Performances during each post-treatment cycle were analyzed by the method of convariance using the mean performance of the third cycle of the initial learning period as the independent variable. The means of the subclasses for each variable were adjusted for regression, plotted, F-ratios* computed, and statistical significance determined. A repeated measurements analysis was made to appraise the effect of treatment on task proficiency over the four hour period. Authors conclude that "The performance of the group given morphine intravenously was no poorer than that of the group given saline. Morphine did not have the deleterious effect on task proficiency that was expected." (p.264)

Kornetsky and Humphries (1957) studied the relationship between effects of a number of centrally acting drugs and personality concluding that their results support a hypothesis that personality plays a role in determining the extent of drug effect. Interesting in this context is the fact that of four drugs utilized in the study, the opiate was the only drug aside from placebo, which did not significantly alter the test results of the subjects. Ten young adults, six male and four female normal volunteers, were given various doses of Secobarbital (hypnotic), Meperidine (narcotic opiate), Chlorpromazine (tranquilizer), and LSD (psychotomimetic). Drug effects were measured by addition, pursuit rotor, digit symbol test, speed of copying numbers, tachistoscopic* discrimination, and tactual perception. These are referred to as the objective test. In addition, a 46-item questionnaire was administered at 30, 90, 150, and 210 minutes after drug ingestion and referred to as the subjective test. Objective test scores were expressed as a percent of the mean of two control scores and then an over-all mean percent score for all tests was obtained. The subjective test score was the total number of symptoms for the four periods. All drugs with the exception of the opiate narcotic produced significant or near-significant effects on both the objective and subjective test measures.

Knight and Prout, Stevenson, and Brown and Partington all dealt with the I.Q. levels of addicts in comparison to the general population. Stevenson (1956) reports that all but a few subjects had good average intelligence. Brown and Partington (1952) administered the
Weschler-Bellevue Scale to 317 male addicts and found they did not differ significantly from the general population in intelligence. As mentioned earlier relative to their work, age was not a factor in terms of extensive drug use. Older addicts did not show a lower intelligence test level than did the older group among the general population. Knight and Prout (1951) found the I.Q. of the addicts they tested to be slightly above the norm at 113, although they were dealing with a very select, upper middle class addict. The issue here, however, is that the drug does not affect intelligence. Hence, the socio-economic status of the user is more likely to bear some relationship to intelligence than is the use of opium. Even the amount and severity of mental illness seems to vary inversely with socio-economic status.

Srole, et. al. (1962), in the Midtown Manhattan Study, did a home survey of subjects aged 20 through 59. Six socio-economic status groups were assigned to subjects according to parental socio-economic status (SES). Differences were significant at the .001 level of confidence with the highest social class showing 24.4% of subjects as well and 17.5% impaired. In the lowest ranked class, 9.7% were considered well and 32.7% impaired. The question arises as to whether the measurements of impairment were purely stereotypical views and whether the impaired could possibly be very well if they and their class equals were in control positions and hence setting the standards for measurement. In any event it seems highly possible that factors frequently attributed to opiate use should in fact be attributed to socio-economic class. It certainly seems ludicrous to blame opiate drugs for societal ills for which they are undeniably not responsible.

There is fairly conclusive evidence that opiates do not cause psychological damage to the addict. They do possibly alleviate psychological distress on a temporary basis. Opiates do not cause deviancy, but rather, resort to their use is generally a function of some type of deviant personality characteristic. In view of these assertions one question remains. Does addiction in any way harm the people with whom the addict must come in contact and/or with those who are within the addict's sphere of influence? The immediate, apparent answer is yes.
But, evidence will substantiate the premise that the harm is not due to the drug per se but rather to the current status of the drug in our society. In fact, rather than the addict having an adverse affect on his social environment, it may be that the social environment may affect the individual's response to the drug or may have an adverse affect on the individual, thus drugs become the escape. In the first sense, animal experimentation by Katz and Steinberg (1972) is relevant. Rat responses to opiates were experimentally altered by social factors. More specifically, whether the rats were isolated from birth or lived in groups significantly affected how they responded to the pharmacological properties of the drug. Morphine-induced analgesia was more apparent in isolated rats than in the grouped ones. Spontaneous activity of grouped rats was more depressed than that of the isolated rats. So, in effect this experiment is saying that the grouped rats were lazier and less active while the isolated rats could stand more pain. It would certainly be stretching the implications of this experiment to say that the same assumptions can be made regarding housing conditions of humans, but it is notable that it was presumably the social environment that accounted for the differences since both control and saline rats were not affected. Regardless, considerable research evidence is available which does assist in the understanding of opiate addiction in a social framework.
SOCIAL INFLUENCES

Several studies suggest that a favourable or more culturally acceptable social context of living tends to enhance the probability of treatment success for opiate addicts. For example, a study by Krakowski and Smart (1974) illustrates this point by showing that Methadone Treatment subjects remaining in treatment for longer time periods have a higher proportion of marriages coupled with actual living with their spouse or children, and white collar jobs. Program dropouts had more criminal charges before entering the program and histories of heavier drug use. Westermeyer (1971) reporting a field study of the Meo of Laos demonstrates the effect of cultural attitudes in the context of drug-individual-society. Evidently alcohol is employed within rigid social constraints, among the Meos and thus alcoholism as such does not occur. Opium on the other hand is a cash crop and found in every home. Many Meo smoke opium and a few become addicted. Because it is necessary to their economic survival it is not considered in the same context as is true in North America. Westermeyer visited Laos in order to obtain data for his Master's Thesis in Anthropology. Professional work in a hospital and in village health activities provided the opportunity for him to become acquainted with the addicted users. Meo people inhabit mountainsides 1000 to 2000 metres above sea level which makes the climate ideal for opium-poppy growth. They also produce distilled grain alcohol. Westermeyer's close contact with the Meo over two years indicated marked differences between the opium and alcohol patterns of usage. He visited 14 villages with his longest stay in one village being seven months. The remaining time spent in each village visited ranged from a few days to a few weeks. During this time Westermeyer was generally a house guest in Meo homes. Translators were not used and the author developed many close friendships and acquaintances as well. He reports that the Meo live in politically autonomous villages of 100 to 300 people. Polygamy is practised by those men able to afford it, and each man functions as a farmer, hunter, husbandryman, and when and if necessary, as a warrior. The Meo Society is strict and tightly integrated. "The hierarchy of family-clan-village obligations places
each individual at a distinct social locus, with well-known rights and obligations." "Norms with regard to truth, honesty, and chastity border on puritanical." (p.60) Alcohol is drunk in the form of a strong whiskey distilled from rice or corn with each household making its own. Social imperative regulates when alcohol is drunk, by whom, and in what quantities. All drinking occurs as a social activity within the family or friendship group. Anyone over-indulging to the point of obvious impairment leaves before he attracts notice. Alcoholism as we acknowledge it is not apparent.

Opium, for most Meo is important for economic reasons. While alcohol is subject to social constraints opium is not. Opium may be freely used as medicine, for pleasure, or to commit suicide although reportedly this does not often happen. Most Meo refuse to use opium for fear of becoming "one who enjoys opium." This nonuse category comprises 90.2% of the sample of 400 Meo villagers age 20 years and up. The author suggests that in all probability occasional users call themselves non users and hence a 65% - 80% rate of users is more accurate. Of those who do smoke, most are occasional users varying in frequency of use from a few times per week to once very few years. Occasional users show no withdrawal symptoms and no tendency to increase dosage progressively. Occasional users behave and work normally to meet obligations. Habitual users smoke once a day. Smoking may be interrupted for a few days or even entirely discontinued without any apparent withdrawal development. Physically they cannot be readily distinguished as a group although their smoking is publicly known. The working addicted smoke two to four times during the day. Deprived they show signs of withdrawal. "While such individuals still perform work and indeed are able to raise their own opium, their ambition and energy are dulled. They rarely taper off or stop smoking, and they manifest extreme concern for their opium cache and smoking equipment." (p.102) They represent .5% of the total population. "Incapacitated addicts smoke five to ten times a day and perform little or no work. Preparation of the opium pipe and deep inhalations from it alternate with periods of stupor. Such men, usually in their 50's or 60's, are totally dependent on others for their opium supply. Since smoking requires large amounts of opium as compared to parenteral use or ingestion, large portions of the family's resources may be thus
consumed. While an impoverished incapacitated addict may beg for opium, he does not resort to thievery. He can be readily identified by his unkempt appearance, long dirty hair, marked weakness, dull expression, and thin wasted condition; his hands are thin and uncalloused." (pp. 61,62) The author found no incapacitated addicts in his sample of 400, one in a small survey group, and several elderly men while carrying on hospital duties.

On the basis of his study, Westermeyer suggests the following:

1. The choice of an intoxicant and its pattern of use in a culture is not a chance phenomenon but is related to ecologic, psychosocial, and cultural factors.

2. Alcohol is a cathartic drug implementing behavioural expression of internal states. Opium is a control drug aiding suppression of disruptive impulses.

3. Opium use may be functional as well as dysfunctional for certain individuals and for their society. Westermeyer further notes that society may also benefit from intoxication and addiction. Nativistic movements, widespread violence, revolution, and anomie* have disrupted other societies (13). (Ref. 13 from Westermeyer)

4. Opium use need not be addicting even in the chronic user.

5. Physical disability, crime, and social disruption are not inevitable sequelae of opium addiction.

6. Cross-cultural study of the use of addictive substances requires lengthy field observation and careful use of terminology. (pp. 1022-23)

In looking at the use of opiates within our own cultural framework, research intimates that there may be a family cause-effect relationship between family dynamics during growth and developmental stages and drug addiction during adolescence and adulthood. Since drug addiction itself, in the context of our society disrupts the family unit and makes a normal social environment for the addict nearly impossible, a vicious circle seems inevitable. To call the drug the villain seems inappropriate under these circumstances. This is illustrated by Stanczak and Schoof (1973) who studied 21 young heroin addicts from a middle class suburban community. Ten of his group successfully completed an outpatient methadone withdrawal program. At the time of writing, three of his subjects were still in follow-up therapy and four were transferred to maintenance while four were readdicted to methadone or heroin. Stanczak and Schoof assert that
group psychotherapy with the parents and patients was essential to their program and further, that the common theme has been lack of involvement with the child concerned, by the parents. He reiterates the same psychodynamics of the addicts as indicated by Knight (1937) relative to alcoholics. (i.e., father-son competitiveness and mother defensiveness of the son toward the father.) Further, the parents of patients who dropped out seemed to have reached a stalemate in their own therapeutic progress. Hence, at which end of the social spectrum is the social harm? Studies analyzing addiction in this frame of reference go on and on and generally very slowly tend to improve the understanding of the psychological, social and family dynamics of opiate addiction. But, more important at this stage is whether or not opium in an illegal framework and addiction in a criminal context is the most satisfying way of handling the problem.

Henderson (1970), Stevenson (1946), and Berger (1972) asked addicts from whom they first learned and/or tried their drugs. There is no question that the specific environment where drugs are first used and for the most part are continued to be used, is generally one of ill-repute such as skid-road, street corners, bars, jails, and hotels in the sleazier districts of large cities. In Henderson's report 300 males and 129 females were interviewed regarding a variety of social aspects relevant to their addiction. When asked from whom they first heard about drugs, peer group members and more casual acquaintances were the most widely indicated means of transmitting awareness of drug use. 46.9% gave curiosity, experimenting, something new, as their reason for first drug use. Curiosity and social pressure were second with 13.7% subjects reporting these reasons. Only 5.2% fixed for the first time alone. Stevenson et. al's. 1956 study of 100 incarcerated addicts found that most learned of heroin from other delinquents and saw it self-administered by someone else before they tried it themselves. Their explanation for first use was for thrill and curiosity. Berger (1972) blames compulsory education for drug addiction. 343 young addicts were interviewed at length for his study. One of the most relevant and frightening observations by Berger is, "Even if the youngster survives skin infections, endocarditis, brain and kidney abscesses, arrest and incarceration, he still will have lost a minimum of twelve
years of precious time. Our studies indicate that drug habits which started at eighteen are rarely cured spontaneously until thirty. This individual may then be too old to qualify for a useful place in a highly competitive society." (p.172) Berger's statistical evidence is summarized as follows: Drug addicts are hostile and hate authority regardless of source. One factor stood out in almost every interview—an absolute hatred of compulsory education. Berger's 343 addicts were under close surveillance for several months and each treatment included a long period of discussion so that they soon spoke freely and as put by the author, "Began to ventilate." Berger's subjects gave reasons such as, "Others were doing it; I was nervous; I was curious;" for using drugs. Relative to his thesis that addicts hate authority, hence school among other things, is the fact that he found only 22 of the 343 addict subjects finished college and only 2% of the 343 were ever placed in the top 10%. Berger noted intense hostility toward school and the society which forced it upon the subjects. Only 29 had never failed a course throughout their educational career, short though it may have been. Murphy's (1966) study on Rounders and Squares disclosed a three year differential between the mean number of years of schooling of addicts as compared to non-addict controls. Holloway's work with servicemen in the U.S. Army found a similar difference. Berger suggests that "compulsory education engenders in the uneducable a hatred of society. In the expression of this antipathy, the adolescent repudiates his culture. He attempts to destroy his jail and his neighbor's property. Finally, he attempts a chemical escape from the viscissitudes of his environment." (pp. 178-79) Murphy sees the educational gap between the rounders and their square matchmates as an indicator that they began following different routes through life at least by their mid-teens. "In our opinion it is an indicator that a fairly broad range of conventional skill deficiencies are likely to be found amongst the addicts. Since this would make them less attractive to employers it would tend to deprive them of the legitimate economic rewards reaped by the squares and would make both illegal enterprise and drug use relatively more attractive alternatives as sources of satisfaction." p.18
The fact that Henderson's study indicated that only 5.2% of the addict subjects fixed for the first time alone suggests rather definitively that in most cases someone had to be there lending a helping hand or a word of encouragement. The Narcotics Addiction Foundation report further states that 85% of the addicts said that someone also attempted to discourage their use, naming the most important of these to be parents, spouses, and close friends. Very few were encouraged by relatives yet it is these very people that many research studies suggest are the cause of young people turning to drugs. (Berger, Knight, Stanczak and Schoof, etc.) Not only do drugs and addicts get caught in a vicious circle, but we who try to understand also find our understanding riding on the same merry-go-round. To deal with information that can be more objectively analyzed and might possibly help clear the confusion, the crime rate relative to addiction should be examined as well as general types of crimes for which opiate addicts are most often responsible.
CRIME

A general overview of addicts and their criminal activities is presented by O'Donnel (1966). The year that an individual is first addicted has only a weak effect on the number of post-addiction sentences. This is shown in those having an addiction of more than 11 years. Among the sample studied by O'Donnel, the number of post-addiction sentences was twice as large for those addicted after 1950. He further found that crime after addiction was directly related to the source of narcotics; the more an addict was dependent upon criminal sources of drugs, the greater the number of other crimes recorded for him. Although the following represent American data, Dai (1937) found that of 1,047 addicts, 80.8% had no criminal record before addiction. Pescor (1943) found 75% of 1,036 addicts had no history of delinquency prior to addiction. Henderson's 1970 B.C. study found that 56.6% of the males and 43.7% of the females in his sample were convicted in juvenile court. With few exceptions, juvenile convictions preceded drug use. For the whole population, the number of juvenile convictions and the age of first trying drugs were inversely related. In other words, the greater the number of convictions, the younger the age at which the addicts first tried drugs. Since the process of addiction takes some time, most of the convictions referred to were narcotic violations. 82% of the males and 76% of the females were convicted of a narcotic violation. 75% of Henderson's respondents had become addicted by the end of two years. Most subjects confirmed their addiction by the onset of withdrawal symptoms (87.9%).

Speaking in general terms, Brown, et. al. (1973) related the rate of addiction by census tract for the City of Washington D.C. to various measures of social disorganization and found significant correlations between addiction and poverty, overcrowding and quality of family life. Alexander (1973) suggests that the behavior of drug addicts can possibly be evaluated or even predicted by viewing it in the context of the heroin market. Alexander found high negative correlations between heroin potency and robbery (-.838) and heroin potency and burglary (-.495), both significant at the .01 level of confidence. He also found a very high positive correlation between heroin cost and robbery significant at the .01 level (R = .91) and heroin cost and assault
significant at the .05 level (R = .72). Heroin potency correlated with treatment admission positively (R = .65) significant at the .05 level. Alexander's data was obtained as follows. Potency of street heroin was compiled by evaluating all bags containing any heroin and a total weight of 25 to 200 MG per bag, which were submitted to the Georgia State Crime Laboratory for analysis in 1971 and 72. Data on cost of street heroin was obtained from the Metro Atlanta Narcotics Squad and The Drug Abuse Law Enforcement. The former has data since late 1970 and the latter since April 1972. Crime statistics were obtained from the Atlanta Police Department. There are 46 law enforcement agencies and six Sheriff's Departments in the six county Atlanta area, but the Atlanta Police Department is the largest agency in manpower, arrests, and reports of offenses. Therefore, APD data are used as an index of criminal activity in the Atlanta area. Statistics regarding patients in treatment were obtained from the Drug Abuse Services Section of The Georgia State Division of Mental Health. This is a statewide, centrally computerized program that currently supervises all patients receiving methadone maintenance in Georgia. Statistical methods used were student's t-tests and calculation of correlation coefficients.

Gearing (1973) studied 1000 male and female volunteers in the New York Methadone Maintenance Programs between 1964 and 1968. All had criminal records with an average of 3.5 arrests in the three years prior to admission. 36% could be considered socially productive while the remaining 64% were either on welfare or supported by illegal activities. In the four or more years since admission, the 660 patients who had continued in treatment until the time of writing, 482 had no record of arrests or involvement in illegal activities. Among the other 178, there had been an accumulation of 64 arrests over the seven year period. The overall arrest rate for the total N of 1000 was hence 6.5% in the first year, 4% in the second, 2.9% in the third, 1.4% in the fourth, and less than 1% in subsequent years. This amounts to 1.15 arrests per 100 person years of observation. This contrasts to 16.6 arrests per 100 person years in the three years prior to admission. Murphy's 1972 study referred to in the Methadone Maintenance Treatment Program Section (p. 34) corroborates Gearing's Study. Illegal earnings correlated +.72 with frequency of nonprescription opiate use (p.<.01).
% of time illegally employed correlated positively with frequency of non prescribed opiate use +.82 (p.<01) and negatively with frequency of prescribed opiate use (primarily methadone) -.1164. A multiple regression equation using both factors accounted for 68% of the variance in % of time illegally employed (R = .68). Patch et. al. (1973) analyzed the crimes committed in Boston excluding minor motor vehicle violations, defaults, drunkenness, and victimless crime relative to the total percentage of crime committed by addicts within the City of Boston. Using 526 subjects in treatment it was concluded that 6,846 heroin addicts in Boston in 1971 accounted for 41.1% of all larceny, 13% of all robbery, and for 18.7% of all burglary in Boston that year. Newman, et. al. (1973) detailed arrest histories of addicts before and after admission to Methadone Maintenance Programs, while Newman and Bashkow (1973) report arrest histories before and after admission to an ambulatory detoxification program. In the former mentioned study a stratified random sampling of program applicants during the first year of operation of Methadone Maintenance in New York City yielded 330 subjects. Admission criteria included a two year mainlining history of heroin use. Pre-admission arrest rates indicate patients were on an upward spiral at the time of application to the program and this trend continued during the waiting period to admission. There was a marked reduction in arrests following admission to the program. The Newman and Bashkow study used 217 single detoxification patients who were found to have experienced an increase in their overall arrest rate from 27.7 to 62.7 (128%) during the quarter year just preceding admission compared to the second quarter before entering treatment. This increase reversed after the start of the detoxification process; declining 24% in the first quarter and another 22% in the second quarter after treatment. "The sharp increase in arrest rate for the great majority of patients just prior to application corresponds to similar findings in the New York City Methadone Maintenance Arrest Study. This would seem to lend support to the conclusion drawn in the earlier report that '... the observed increased likelihood of arrest reflects an increased dependence on criminal activities; this, in turn, may be a major factor in leading street addicts to voluntarily seek admission." (p.106)
SUMMARY

The addict screams for opiates. When the supply is short of his habit cannot be satisfied for whatever reason, he needs help. He seeks treatment or tries to abstain himself. Methadone Maintenance Treatment is available so it is utilized. Often it is detoxification oriented rather than maintenance oriented. In any case there is frequently a waiting period. Why Methadone? Why waiting periods? Why detoxification? Why do so many Methadone Maintenance Program participants drop out? Does this occur because of forced detoxification or is it related to Berger's suggestion that addicts have a profound hatred for authority and society? Does this occur because the addict's tolerance to the drug effects does not enable stable maintenance? Since it has been earlier noted that some addicts prefer the methadone euphoria to heroin or morphine (Isbell, et. al. 1948), and since it is well known that methadone has the same analgesic and pharmacological properties as do other opiates, it is difficult to understand why Methadone Maintenance Treatment Programs are not more successful if they are maintenance oriented. The most logical immediate answer would be that most methadone programs are detoxification oriented and really do not deal with the addict's problems. Next is the consideration that even if they are maintenance programs in the strictest sense of the words, if the addict is really a rounder, really a deviant fellow or gal, really cannot stabilize due to tolerance build up, maintenance would not touch the real problem.

Hopefully this section has shown that opiates do not seriously affect the addict's ability to function from a psychomotor or mental efficiency point of view. The work of Bauer and Pearson, and Kornetsky and Humphries is particularly illustrative in this respect. These studies show that not only were the opiates not debilitating but, since their studies utilized normals as opposed to addicts, the suggestion that only the disturbed are attracted to opiates and hence use them, is credible. Bruhn and Maage's work illustrates that to date no conclusive evidence of permanent damage is evidenced due to chronic drug use. Social issues are still debatable and research is just as likely to
suggest that the social environment is as harmful to the addict as the addict is to his social environment. This is like trying to decide if the chicken came before the egg, at which point it starts to become obvious that it doesn't matter as long as we can keep both in perspective. This along with some understanding of the addict's psychological need for opiates and his subsequent susceptibility to relapse due to the apparent lack of successful treatment for the majority, merely suggests that the individual must be considered paramount. Whatever is optimum for him or her must be sought, and immediate, even if temporary, measures found to help remove the addict from the impossible bind in which he is presently caught. To consider him a criminal because he uses opium is no more justifiable than considering an alcoholic one. There may be many incarcerated alcoholics that ended up in jail because of behaviour evidenced when they were drunk but there are no alcoholics in jail for possession of a bottle of wine. On the other hand, there are few, if any, opiate addicts in jail for behaviour evidenced when they were experiencing the opiate euphoria but there are many there for possession of opiates or for crimes they committed in order to get enough money to satisfy their need. Is this logical?
PREJUDICE AND FEAR SURROUND THE USE OF OPIATES

The problems and dangers associated with opiate narcotic use are a result of prejudicial attitudes and unfounded fears. Therefore, labelling the opiate addict a criminal and placing his drug on the list of illicit is worthy of objective criticism.

INTRODUCTION

RACIAL PREJUDICE ... CHINESE IMMIGRATION

CLASS PREJUDICE ... IRRATIONAL FEAR
INTRODUCTION

The problems and dangers associated with opiate narcotic use are a direct result of prejudicial attitudes and unfounded fears. Therefore, labelling the opiate narcotic user a criminal and placing his drug on the list of illicits is worthy of objective criticism. Factors of an economic and political nature bear heavily on the issue of opiate sale and use in an illicit North American market. Westermeyer's report of the Meo of Laos glaringly illustrates the importance of socio-economic factors relative to opiate addiction and use. Legal condonation of alcohol in North America as opposed to condemnation of the opiates has no logical justification. This chapter will briefly consider the cultural and historical etiology of the opium problem in North America, especially Canada,
Terry and Pellens (1928) provide an excellent, comprehensive coverage of all aspects of the opium problem in the United States. Since opiate history in the U.S. roughly parallels the course of events in Canada reference to The Opium Problem by Terry and Pellens is helpful in understanding how our historical development has contributed to present day attitudes. Opium (and/or its derivatives) was the chief therapeutic agent used for over two thousand years. In the United States, the Civil War created the need for extensive morphine use among injured soldiers. "Many veterans of the Civil War became morphinists to relieve the pain and suffering following injuries received in the service ..." (Terry and Pellens, p.69) Shortly after The Civil War, opium smoking became known to Whites whereas prior to this it had been primarily a Chinese pleasure. History holds that the first White man to smoke opium was Clendenyn in 1868 in San Francisco. (Terry and Pellens, 1928, p.73) From there on it spread rapidly among San Francisco gamblers, prostitutes and the like, which eventually led to the passage of a city ordinance closing down the bulk of the City's larger opium dens. But, despite, the practice spread to the Eastern United States and north to Canada. (Terry and Pellens)

In 1854, gold in British Columbia attracted Chinese who reportedly first came to Canada with miners from California to the Fraser River Valley (Kung, 1962. p.18) Chinese laborers hired to work on the building of the Canadian Pacific Railroad legally brought their opium with them when they came, be it from California or the Kwan Tung Province of China, where most of our immigrants originated. (Barth, 1964) Initial measures used to control opium use in the United States influenced Canada considerably. The only measures employed for the control of importation of opium before the passage of The Harrison Narcotic Act were those involved in imposing heavy import duties (Terry and Pellens). This created a good deal of smuggling of opium from Canada to the U.S. as there were no heavy taxes levied in Canada. Much British Columbia folklore surrounds the smuggling of opium, particularly along the coast and in the Gulf Islands where easy and close access to the U.S. was possible. Smuggler's Cove acquired its name because it became a convenient dispatch and opium cache
site. (The Islander, Victoria Daily Columnist Magazine, September 7, 1958, pp.8-9) Since the big opium manufacturing companies in British Columbia were Chinese owned and operated, opium was generally associated with the Chinese. (Vancouver Province Newspaper, 07/07/08, 13/07/08, 03/03/09, 09/11/28, 01/12/29) However, as in The United States other influences promoted the use of opium and its derivatives. One example is given by Terry and Pellens to be the patent medicine industry. "It would be impossible to form any accurate estimate of the influence exerted by the widespread sale and use of nostrums containing opium but that this influence was great and contributed in an appreciable degree to the habitual use of the drug is undoubted."(p.74) "Practically all remedies advertised for painful conditions, such as consumption, coughs and colds, pelvic troubles of women, cancer, rheumatism and neuralgia, as well as soothing syrups for babies, and diarrhoea and cholera mixtures contained opium or some of its products and depended principally on those drugs for such virtues as they possessed."(p.75) It is not inconceivable that taxation and police and other activities had less to do with the ultimate near-control of the practice of smoking opium in the United States than had the popularizing in the underworld of the hypodermic and the sniff of heroin, forms of indulgence that were cheaper, more convenient, more adaptable to many surroundings, and far more easily concealed from friends, public, and authorities."(p.74) It is obvious that most of the momentum gained by the practice of use of opiates resulted from lack of understanding of the properties of the drug and its actual value in terms of the reasons for its use. When it was realized that the chronic use of opium resulted in physical dependence and tolerance, i.e., an intense craving or need for the drug by the individual concerned, those that fell victim to the addictive process were in a difficult position, especially after legal restrictions were placed on the manufacture, sale, and use of opium. It is not easy to deal with a mistake and it is even more difficult when the mistake is a large one. Finding a scapegoat, ignoring the problem, or treating it in a judgemental way provide convenient "outs." It appears that this is what happened relative to opiate use in Canada and The United States. The Chinese were ready-made victims with whom to identify the evils of opium and the opiate addict was easy to look upon as an immoral, gutless wonder, incapable of avoiding the lure of the evil drug.
Introduced to China by the British, opium satisfied the economic needs of both countries and the psychological needs of many Chinese people. Opium enabled India to discharge her debt to England and England hers to China. Trade and Diplomacy on The China Coast (Fairbank, 1968) explains the importance of opium in The Chinese Socio-Economic Scheme during the 19th century. Smoking opium became a part of Chinese life and even after an anti-opium movement, masqueraded as a social and moral issue, opium use flourished amongst the people. Profiteers recognized that the increasing demand for opium could create great profits on an illicit market, thus the illegality of opium was assured. Considerable political and economic maneuvering was required in order to ensure the continued use of opium even though its importation was illegal under Chinese law by 1843. (Fairbank, p.133) Drug trade was given free reign as long as it took place in specific ports and caused officials no trouble. This trade could flourish within limits but out of reach of law and taxation. (Fairbank, pp. 149-151) Thus, in the mid-19th century, when the Chinese immigrated to the U.S. and subsequently to Canada, opium came with them. In 1880, a treaty between the United States and China prohibited importation of opium to Chinese subjects residing in the U.S. Since this did not apply to U.S. citizens, they acquired the raw opium and promptly turned it back over to the Chinese for processing (Terry and Pellens, p.745) It at first seems strange in view of this, that the Chinese suffered the brunt of the blame when the time came to denounce opium and its use as objectionable.

To understand the eventual condemnation of the Chinese and subsequently opium, a consideration of the Chinese social heritage and the impact it had on American society is necessary. Because of the vast cultural differences between East and West, Chinese acculturation in North America was very slow.

The Chinese maintained their cultural identity, living in closed and distinct groups, distant and aloof to Westerners and their customs. Chinese males were the habitues of opium dens while few Whites or women penetrated their social circles. The women did not immigrate with the men hence the Chinese comprised a distinctively atypical social group turning to gambling, opium, and prostitution for recreation and diversion. "The absence of women and the lack of family life plus the crowded
state of things in Chinatown, led the Chinese to resort to such vices as gambling and opium smoking." (Kung, p.46)

Gunther Barth, in his book *Bitter Strength* describes the arrival and achievement goals of the Chinese in this way, "The newcomers came with a vision; they would make money to return to China with their savings for a life of ease, surrounded and honoured by the families which their toil had sustained. Their goal kept the Chinese apart from the flow of other immigrants who came to America as permanent residents. The vast majority who came from the Middle Kingdom were merely sojourners and they shaped the initial encounter with Americans, molding the impact made by all Chinese newcomers." (Barth, 1964, p.1)

Unfortunately the impact made by the early immigrants was not to the liking of many of their western contemporaries both in California and in British Columbia. The bulk of the initial immigrants came to B.C. to work on the building of the Canadian Pacific Railroad. Chinese coolies could be employed at a lower rate than Whites; furthermore their contracts stipulated they must buy provisions at the the company store, making them even more attractive to contractors already operating on a tight budget. Pierre Berton's renowned historical account of the building of the Canadian Pacific Railroad, *The Last Spike*, describes the work capacity of the Chinese with the following comparative example. "Michael Haney, who went to work for Onderdonk in 1883, discovered it was possible to move 2000 Chinese a distance of 25 miles and have them work all within 24 hours. The same task could not be performed with a similar number of White workmen in less than a week. It is small wonder, then, that almost from the outset Andrew Onderdonk began hiring Chinese in spite of a volley of protests." (Berton, 1971)

Because of their industriousness, their ability to live modestly, and to endure hardship and suffering without complaint, the Chinese were brought to Canada and hired in place of Whites to build the Canadian Pacific Railroad. They were also amenable to other jobs that were looked upon demeaningly by the Whites. Due to this, resentment grew toward these foreigners who chose to maintain their unique identities and for the most part to isolate themselves from the rest of Canadian society. Resentment grew quickly and easily and the White population soon saw the Chinese as threatening to their security, easily extending this to include
the social and moral fabric of society in general. Opium smoking, prostitution, and gambling were cited as Chinese vices and morally wrong and harmful to westerners. So strong was the anti-Chinese feeling that most everything they represented was considered with mistrust and distaste and many of the so-called societal ills were attributed to their influence. Attempts to pass anti-Chinese legislation centering around head taxes, immigration, and employment restrictions were commonplace.

In The Sea of Sterile Mountains, a history of the Chinese in British Columbia by James Morton, Sir Mathew Baillie, The Chief Justice of the Supreme Court of British Columbia, a resident of the province since 1858 and a man of 65 years, is quoted as testimony to the unpopularity of the Chinese. Begbie says, "Industry, economy, sobriety and law-abidingness are exactly the four prominent qualities of Chinamen as asserted by their advocates and their adversaries. Lazy, drunken, extravagant and turbulent; this is, by the voices of their friends and foes, exactly what a Chinaman is not. This, on the whole, the real cause of their unpopularity." (p. 117)

The British and Canadians had always known of the opium traffic and used it as a reason for the need for federal anti-oriental legislation (Morton, p. 212). Resentment ran high toward the Chinese and so too toward all that was associated with them or directly attributed to them. In other words, opium served as the scapegoat for the perceived threat that the Chinese posed to the Whites. On July 13th, 1908, the House passed a law prohibiting the importation, manufacture, and sale of opium for other than medicinal purposes. This was a result of the efforts of William Lyon MacKenzie King, who surprisingly "... did not know that opium had been imported, manufactured, sold, advertised and smoked extensively and legally in Canada since the day British Columbia joined confederation." (Morton, p. 213)

Isbell (1963), in his accounting of The Historical Development of Attitudes Toward Opiate Addiction in The United States suggests much the same chain of events as has been described in B.C. "Meanwhile, marked changes in the attitude toward the Chinese were occurring. When the Chinese were first brought to California they were quite popular and were regarded as harmless, hard-working, honest people. However, as the
western railroads were finished the Chinese turned to other occupations — they opened shops, started laundries and restaurants — in short, they became competition and the attitudes toward them began to change. Soon they were regarded as dirty, immoral people who engaged in all kinds of crime; they were supposed to deliberately debase White youths and to entice White women into prostitution. Even worse, the Chinese took jobs at pay rates which Whites could not accept. The situation was made worse by the depression of the 1870's, and race riots against the Chinese occurred in California and in Canada. Thus the 'yellow peril' was born, culminating in the Chinese Exclusion Act of 1888.

"Addiction to opiates therefore became tinged with racial prejudice. It was thought of as a practice indulged in by an inferior race, a habit incompatible with White morality and superiority." (pp.158-519)

The possibility exists that without the obvious resentment toward the Chinese, opium could have been viewed more favourably and thus maintained its initial status as a drug comparable to alcohol. Whether that would have been an asset or a liability is of course another question but the following is most aproppos, "...it was difficult for the Chinese to understand why their opium habit was so objectionable when it was forced upon them by the British. The Dominion Government treated opium as a common article of trade, and the City of Victoria charged a straightforward $500 for an opium license. Henry Crease and Emily Wharton, too had questioned which was more evil, alcohol or opium, and one resident, when asked the difference between getting drunk on alcohol and getting drunk on opium, indignantly replied that one was a Christian habit, the other a heathen vice." (Morton, p.212)
Bringing the issue of prejudice and misinformation to the present, Leon Brill (1966) summarizes drug abuse in an American social context, "We are finally realizing that the problem of narcotic addiction has been oversensationalized rather than subjected to objective study and research. We are only now beginning to see it in better perspective as part of the far more pervasive and serious problem of drug abuse, which probably affects a much larger part of our population, including the middle class, than does the addiction to opiates and their derivatives. The concept of drug abuse implies that the use of a drug is dangerous or harmful to the user or to society, and that formal mechanisms of social control are justified. Although research and social evidence show that barbiturate and amphetamine use are harmful, we have been far more tolerant of them and quite irrational on the subject of narcotic use. The historic development of our national stereotypes and attitudes would in itself constitute a most worthwhile subject for study and undoubtedly shed light on the workings of our larger society." (p.20)

In the content of his presentation Brill suggests that the worst part of the addiction problem has been that of definition and public attitude. "In sociology, we speak of the 'self-fulfilling prophecy' which means simply that our way of looking at a problem may help create the problem ..." (p.12) "Perhaps part of the problem has also been that our feelings of resentment are aroused in view of the addicts' acting-out, anti-social behaviour; or that they appear to be challenging the competitive goals we cherish: Or that we envy their ability to 'goof off' and be passive when most of us need to struggle so hard to make it. How can we otherwise explain the irrational anger against addiction (remembering that there is little evidence directly linking use of narcotics to any physiological damage to the body) and the far greater tolerances of other addictions or habituations such as alcoholism, use of barbiturates, amphetamines, tranquilizers and even cigarettes?" (p.13) Much resentment was directed toward the Chinese and it appears they were very much challenging the competitive goals we cherished. This may be one part of a long explanation for our irrational anger against addiction to opiates. It would appear that the fear and mistrust directed toward
the Chinese in the late 1800's carried over into the 20th century and may even have transferred from a form of indirect racial prejudice to a form of indirect class prejudice.

Until recently heroin addiction was largely a phenomenon of low socio-economic areas. Drug use, in general has spread, especially during the 1960's, to other segments of society giving rise to concern and an influx of research and literature on the subject. This suggests that discrimination may have influenced the way drug addiction has been viewed and handled. In other words, until it became a serious threat, close to home, it was perhaps easier to avoid the issue, consider addicts criminals, lock them up, and ignore the underlying problems. A good deal of research supports the fact that opiate addiction is primarily a ghetto concern. Gregory (1973) studied the geographic distribution of 259 heroin users in a community of over 200,000 residents. Results indicated that heroin users were grouped in one small portion of the community. Few cases appeared outside this area. Ross (1973) studied 109 Methadone Maintenance Treatment patients and found that 40% of the treatment population that stopped their illegal drug use did so by moving away from an area of high drug use. Strelinger, et. al. (1973) indicates that invariably, those Methadone Maintenance patients who immediately became readdicted to heroin were those who sought the same friends and social setting. Drug free people had changed friends. Brown, et. al. (1973) related the rate of addiction by census tract for the City of Washington, D.C. to various measures of social disorganization and found a significant correlation between addiction and various crime categories as well as between addiction and poverty, overcrowding, and quality of family life.

Geographical studies are numerous and indicate that the bulk of the opiate narcotic addicts come from a segment of society apart from the mainstream. Zimmering, et. al. (1951) studied 22 adolescent heroin addicts. The intent of his research was not social dynamics, however it is important here to note that all but one of his 22 patients were Negroes or Puerto Rican. The general impression of the authors in studying these boys over three years was that "... they all suffered psychologically from the discriminatory practices and attitudes directed against their racial groups. They feel more keenly than other national minorities that they live in an alien, hostile culture that considers
their racial characteristics as stamps of inferiority." (pp.20-21)
All of the addicts concerned came from the Harlem area of New York City, an area notorious for its poverty, intense congestion, slums, and high delinquency rate. Most Canadian addicts may not be from minority nationalities but more than likely they are from disadvantaged social classes. Only recently has there been a swing toward addiction among the middle socio-economic stratas of our society.

Although the intent in this report is not to summarize the research literature concerning geographical distribution of opiate addicts, Brill did do this in a 1966 study. "While a great deal still remains unknown about narcotic addiction and requires extended research, the prevailing opinion is that it is most widespread in the most dilapidated areas of large port cities, and at least in recent decades, has been clearly intertwined with the deprivation and discrimination found in urban slum areas. (p.9) Despite the fact that there has been a notable swing to middle class drug use since that time, the point is still well taken that discrimination against the addict extends to the manner of treatment available to him due to his circumstance and due to the discrepancies in value systems between the addict and the people attempting to provide the assistance, counselling, or care. Quoting Dr. Leonard Schneiderman from the American Journal of Orthopsychiatry (1965), suggestion as to why these people are not effectively treated is made. "There is evidence in our health and welfare enterprise that the lowest social class -- the impoverished people who live in the economic cellar of the community are the least adequately served; that to an alarming extent the impoverished are considered as poor service risks in programs presumably set up to meet their needs, that the poor are not competing successfully with their middle-class neighbors for the attention of social workers and other professional helpers; that money raised in the name of the poor does not often reach them in the form of effective services."

And so the misconceptions and fears are perpetrated. The addict is a non-treatable, societal misfit; a threat to middle class values; a criminal to be dealt with through incarceration. Opium again becomes the scapegoat for a broader more pervasive problem. Obviously, until the opiate narcotic issue is looked at objectively, as a culture we cannot hope to deal effectively with the problems it currently poses.
OTHER DRUGS, BETTER OR WORSE?

The need for re-examination of all research regarding the opiates is in order inasmuch as other societally acceptable drug and behaviour habits have been shown to be equally and/or significantly more harmful than the opiates.
In the forerunner to this report (Opiates and The Human Body), alcohol was discussed as a substance equally addicting and substantially more damaging than opium when it is administered in a medically safe manner. Barbiturates, amphetamines, and chemical hallucinogens are also drugs commonly misused which are dealt with more lightly in the public eye and by law enforcement agencies. Perhaps there is no logic to this, especially with regard to alcohol. There are definitive physiological hazards inherent in chronic alcohol over-indulgence some of which are irreversible. Since the intent of this presentation is to deal with the opiates, specific reference to research evidence validating the harmful effects of other drugs will be minimal. To cite one example, reference to the work of Kornetsky and Humphries (1957) is appropriate. Mentioned earlier (opiates will not harm the addict or society, p.49 ), Kornetsky and Humphries were primarily studying drug effect and personality. Of four drugs (hypnotic, tranquilizer, psychotomimetic, opiate) utilized in their study, all but the opiate showed significance in altering objective and subjective test results. Subjects utilized were considered normal and were both male and female volunteers. These results also support the concept that normals are neither attracted to nor significantly affected by the use of narcotic opiate drugs and thus would not be inclined toward addiction under usual circumstances. Westermeyer's 1971 cultural field study showing a .5% addiction rate among his subjects also supports this concept. Other drugs, however, do significantly alter perception and behaviour and thus are perhaps more hazardous to the general population. Yet, these very drugs are currently less ostracized in view of present law enforcement and subsequent treatment of the user by society. Any concerned reader can easily find his way to numerous studies documenting the hazards of alcohol or even barbiturate addiction not to mention amphetamine abuse and the inherent dangers in tobacco smoking. Fitzpatrick (1974) summarized an appendix to the 2nd Report of the U.S. National Commission on Marijuana and Drug Abuse, 1973 by Jared Tinklenberg. Significant here because it is considered the best review of the literature concerning drugs and crime, and because it
gives some definitive comparisons between opiates, alcohol, barbiturates, amphetamines, and marijuana, the following conclusions were made:

... no sufficiently reliable evidence is available to establish a causal relationship between drug abuse and crime.

... "The most abundant evidence of the relationship of a drug to crime is in the area which Americans tend to underestimate or even overlook, in the relationship of alcohol to violent crime. In many assaultive and sexually assaultive situations alcohol is present in both assailant and victim.

... "An increasing amount of data links barbiturate users and amphetamine users with criminal activity, especially assaultive crime ... however amphetamine and barbiturate users were no more likely to be charged with violent crimes than were individuals who were identified as nondrug users, a category that probably included alcohol users.

... "There is no evidence that the use of marijuana is associated with violent crime; the use of opiates may be associated with crimes of theft for money to purchase drugs. But users of opiates are less likely to be involved in assaultive crimes than users of alcohol, barbiturates, and amphetamines. Users of LSD or psychedelics or cocaine, tranquilizers, nonbarbiturate sedative-hypnotics, glues, gasoline, and other volatiles are not inclined toward assaultive criminal activity.

... "No drug can be said to induce crime, except in rare cases of toxic reaction." (Fitzpatrick, pp.354-355)

Fitzpatrick further notes that: ... analysis of police records of 588 cases of homicide in Philadelphia between 1948 and 53, found that 60% of the offenders committing violent homicide reported drinking prior to the crime. (Wolfgang, 1958) ... The Kinsey Institute for sex research found that alcohol was reported in relation to 67% of all sexually aggressive acts against children, and in 39% of sexually aggressive acts against women (Gerhard et. al., 1967) ... The drug most used by assaultive arrestees was barbiturates although this particular study did not include alcohol. (Eckerman et. al.)

The whole issue of society's lack of tolerance for one drug and yet not another is perplexing in light of scientific evidence available.
It is a generally accepted concept that opiates depress pain, sexual drive, hunger, and thirst while alcohol and barbiturates impair control and behaviour and permit direct, aggressive acting-out of conflicts. (Isbell, 1961) In subsequent work by Isbell (1963), the contrasting attitudes toward alcohol and opiate users is further highlighted. Isbell suggests that "In some respects, opiate abuse is less harmful than alcohol abuse." (p.156) The immediate effects of overindulgence in alcohol are all too familiar. Opiates on the other hand are soothing, inducing calm and peace while suppressing sexual drives. (Kolb, 1925)

Even when considered in the context of relapse rates, the opiates fare no worse than cigarettes and alcohol. Hunt (1971) indicates comparable rates of relapse for opiate addicts, alcoholics, and cigarette smokers. In other words, once a psychological dependence has been established, regardless of what it is, the individual with the dependence will find it difficult to abandon his habit. Despite the fact that Health and Welfare Canada suggests that "danger to health increases with amount smoked -- avoid inhaling" on every package of cigarettes, those who have succumbed to the tobacco habit are not generally punished, severely intimated, or frowned upon. The Bureau of Dangerous Drugs (1974) doesn't even consider alcohol a dangerous drug, perhaps because its use is not illegal. Yet, according to Statistics Canada 1973, alcohol poisoning killed more Canadians than did opiates.

When compared with certain recreational pursuits opiate addiction appears less hazardous than hang gliding or even snow mobiling. The U.S. National Safety Council maintains a nationwide newsclip surveillance of accidents relating to the use of hang gliders. In the State of California alone from mid-1973 through 1975, 28 hang gliding victims were counted. In the 1973-74 winter season only there were 154 snow mobile deaths in the U.S.A. In Canada in 1972 1,804 people were killed by accidental falls and 1,073 died due to accidental drowning which represents 4.9 deaths per 100,000 population. It is interesting to note in a National Safety Council Report (1974) accounting for the number of swimming pool fatalities, the least supervised the pool the greater the number of fatalities. For example, residential pools
accounted for 149 of the total 301 fatalities while camps, YM & YWCA's, and club pools accounted for three each of the grand total. The implication of this comparison to drug addiction is that supervision and knowledge reduce hazard. Even SCUBA diving statistics support this premise with few deaths per number of hours of diving time.

Analysis of carefully collected data in British Columbia from 1959 through 1975 showed that there has been approximately one fatality per 97,000 hours of SCUBA diving, (B.C. Safety council, 1975) whereas mountain climbing claimed one victim for every 25,000 hours of activity. (Vancouver Sun, March 4, 1976) The differential in danger can well be attributed to the fact that SCUBA diving is carefully controlled and regulated inasmuch as a diver cannot get an air supply unless he shows proof of having satisfactorily passed a recognized course of instruction. The near quadrupled death rate for mountain climbers could be due to the difficulty in regulating participation in this activity. The suggestion here is that the use of opium is no more dangerous than a good number of activities which are quite legal, enjoyable, and looked upon favourably, but, were the addict able to use his drug in a carefully controlled setting or without restriction after having learned proper administrative procedure, the hazards which are inherent in the illicit use of opiates would diminish considerably, obviously along with the crime rate.

Despite the above and the lack of evidence linking properly managed opiate use to debilitating disease or harm, the opiates are still looked upon as dangerous, damaging, and disgusting. To compound matters, when an addict is in short supply of his favourite drug, namely heroin, many other drugs which society more often condones are used as substitutes or concomitantly with opiates. Taintor et. al. (1973) found that 80% of 288 addicts had abused prescription drugs before taking heroin. During detoxification, abuse with other drugs was insignificant. A six month study showed that most patients had reverted to a pattern of illicit multiple drug abuse. Raynes et. al. (1973) studied 400 consecutive admissions for detoxification and had the following to say, "...with the greater problems of prevention and treatment of barbiturate abuse, the law enforcement agencies, responsible at least in part, for the decreased incidence in heroin abuse, may well be contributing to a more lethal epidemic." McKenna, et. al. (1973) studied 441 patients admitted for detoxification. Of these, 5.2% had mixed addictions.
Data suggests an increased incidence of this, possibly due to decreased availability of heroin and acceptance and knowledge of sedative hypnotics* and tranquilizers.* There is good cause to suggest that were opiates available to the addict the concomitant use of alcohol and barbiturates would be less likely to occur. For example, Rosen (1973) found that of the 68% of opiate drug addicts that were also alcoholics, 47% lessened and eventually discontinued alcohol as they progressed more deeply into drug dependency.

It would appear from statistical evidence regarding the rise of applications to MMTP in conjunction with rises in heroin scarcity (Alexander, 1973) that many addicts will submit to whatever they must in order to get some variation of their desired drug, be it heroin or methadone. Due to the rebellious nature of the addict (Berger, 1972), if heroin is unavailable and he or she is unable or unwilling to be a part of a MMTP, then alcohol, sedative hypnotics, or tranquilizers may act as interim substitutes. If we know that any one of these alternatives is as bad or worse than the prized drug, opium, and we proceed making it as difficult as possible for the opiate dependent person to obtain his drug, are we not forcing him into the position of having to further jeopardize his health and well being with a complex variety of psychotomimetic*, or psychotropic and probably physically harmful substances simply because of an irrational fear of opiate use?

In a historical vein it is of interest to mention here that close to 75 years ago, when the sale of opium was on the verge of becoming illegal in Canada, the government appointed a Commission to study complaints against the Chinese in B.C. Two Commissioners, Chapleau and Gray, spent an evening with Superintendent Bloomfield, Victoria's Policy Chief, rambling through Chinatown. In one opium den they encountered "... a young woman, well dressed and full of intelligence." (Morton, p. 115). Her name was Emily Wharton and the following information she gave reflects some concepts currently under discussion. "Trouble, I suppose led me to smoke. I think it is better than drink. People that smoke opium do not kick up rows; they injure no one but themselves, and I do not think they injure themselves very much. I know opium smokers who are 65 and 70 years of age. There is a man over there who has smoked..."
opium for thirty years." (Morton, p.115) In responding to the question, "Why do you smoke:" She replied, "Because I must; I could not live without it. I smoke partly because of the quiet enjoyment it gives, but mainly to escape from the horrors which would ensue did I not smoke. To be 24 hours without smoking is to suffer worse tortures than the lost." (Morton, p.115) When questioned with regard to prostitution and opium smoking Emily Wharton said, "No, they are more addicted to drink, and drink does them far more harm. Drink excites passion whereas this allays it; and when a fast woman drinks she goes to ruin pretty quick." (p.46)

75 years later, most of Emily Wharton's observations have been substantiated through research yet in terms of public understanding and attitude, little has changed.
THE PSYCHOLOGICAL AND SOCIAL RAMIFICATIONS OF OPIATE ADDICTION.

A review of the literature

SUMMARY AND CONCLUDING REMARKS
Summary and Concluding Remarks  

The opiate dependent individual uses narcotic analgesics in an effort to manage his life with a greater degree of comfort and ease. (Pittel, 1971; Howe, 1973) Although no specific personality traits have been identified through research to indicate a predisposition to opiate narcotic addiction, (Platt, 1975; Gendreau and Gendreau, 1970) there is considerable evidence validating the fact that the opiate dependent is a depressed individual who turns to opium based drugs for the temporary relief from psychological distress. (Sola and Wielund, 1971; Fisch et. al. 1973) Even in situational addictions, such as those reported in studies of American soldiers in Vietnam (Kojak and Canby, 1975; Holloway, 1974) it would appear that the opiate was used for the relief of psychological distress. The only exception to this may be in the case of a medical addiction which presumably develops as a result of physical pain. This type of addiction is presently rare, in that the dependence producing liability of narcotic analgesics is established fact. The prescribing of opiates for the relief of pain is generally exercised with great caution. (Terry and Pellens, 1928)

The opiate addict is able to achieve his temporary respite from psychological distress as a result of the euphoria he experiences after administration of an opiate narcotic. It seems apparent from research to date that opiate dependence is primarily psychological and ontogenetic in origin. (Fort, 1954; Rado, 1957) Social and sociological factors therefore influence the individual's susceptibility to the initial use of opiates as opposed to some other method of self-treatment and his subsequent vulnerability to relapse. (Ross, 1973; Strelinger et. al. 1973) It also seems reasonable to suggest that were the individual psychologically stable the euphoria experienced would be diminished considerably and addiction in all likelihood would not ensue. Hence, normal persons generally do not become opiate drug addicts, and situational as well as true medical addictions are more easily treated and overcome. (Westermeyer, 1971; Kojak and Canby, 1975) Research has indicated, primarily on the basis of clinical experience, that the greater the degree of pathology the greater the euphoric response to opiates. In other words, the greater the psychological/emotional "down" the greater the

1 Supporting documentation for the concepts presented in this summary is limited to one or two of the primary sources utilized in the text of this presentation.
"lift" received from the use of opiates. (Kolb, 1925)

Unfortunately, opiates are not only dependence-producing but their pharmacological effects on the body diminish gradually with chronic use due to the development of physiological tolerance by the drug user. (Seevers and Woods, 1953) Thus the addict gradually requires more and more of the drug in order to achieve the same end result. Since this increasing tolerance to the pharmacological effects of opiates leaves little room for long-term maintenance without periodic abstinence at least one researcher has seen some success by treating methadone maintained patients concomitantly with anti-depressant drugs. (Woody, et al. 1975)

Economic factors of supply and demand play a major role in how the addict is able to maintain his habit (Newman, et al., 1973; Newman and Bashkow, 1973) and there is the possibility that many never get enough for an appreciable amount of tolerance to occur. In any event, when opiates are in short supply or when the addict is beyond receiving an adequate euphoric response he usually seeks some form of treatment or attempts to abstain on his own. (Gearing, 1973) This suggests that periodic abstinence is a necessary part of the addictive cycle. Addicts studied upon application for treatment have been found to be on an upward spiral, finding it difficult to manage their addiction either psychologically or economically. Statistical evidence has identified a positive correlation between crime rate and heroin cost and a negative correlation between crime rate and heroin potency. (Alexander, 1973)

The treatment and cure of opiate addiction has been largely unsuccessful, particularly for younger addicts, with the younger the age of onset of addiction the less the likelihood of permanent abstinence. (Hunt and Odoroff, 1962; Quatrone, 1973) The greater the severity of the addict's depression the less likely he is to remain abstinent or to complete a treatment program. (Sola and Wielund, Fisch et al. 1973) Winick (1972) postulates that a maturation process finally enables the majority of addicts to abstain through some form of "emotional homeostasis." This theory is based on United States Federal Narcotic Bureau drop-out files although any number of variables could account for an addict's disappearance from the bureau files.
Direct harm to the addict from the use of opiates is negligible and may even be considered relative. Certainly opiates do not solve whatever is causing the addict's psychological need for the drug nor are they the cause of his need. Rather, they appear temporarily to alleviate the opiate-dependent's psychological distress and to enable him to function more comfortably until such time as the drug effect wears off. Research supports the suggestion that the addict's psychological make-up, intelligence, psychomotor performance, and mental efficiency are not significantly altered by the extensive and chronic use of opiate narcotic drugs. (Bruhn and Maage, 1975) Significant physiological harm cannot be attributed to opiates either but rather to the unsterile method of self-administration usually employed by addicts, the adulterated nature of black market opiates, or the life style which is forced upon the addict due to the illegality of his drug. (Stratton, 1975, LêDain et. al. 1973)

There is no question that the addict causes social harm as a result of his dependence if in no way other than that most opiate addictions are maintained economically via illegal activity. (Murphy, 1972; Alexander, 1973) To attribute this to the properties of the drug or its effect on the user would be nonsensical. If opiates were inexpensively available at the corner store the necessity of illegal activity for their procurement would vanish. Whether this would have an appreciable positive effect on the addicts' deviant behaviour patterns is difficult to assess. It is perhaps possible that the nature of the addict's needs also involves the need to behave in a socially rebellious manner (Berger, 1972) and hence other anti-establishment behavioural patterns would ensue. But, at this point there is no reason to assume this and no evidence to support it either, except for the facts that Great Britain's Opiate Maintenance Program apparently still leaves room for illicit trafficking as do our own Methadone Maintenance Programs. However, this is probably better explained by the fact that the development of tolerance prohibits the addict from achieving indefinite maintenance at stable dosages. Society has made a moral judgement by ensuring the illegality of opiate use and sale outside the framework of standard medical practice. In so doing we have labelled the addict a criminal and perhaps even made him one. (Brill, 1966)
Other direct social harm from opiate use cannot be substantiated as it is just as likely that the addict has been harmed by his social environment and hence has turned to drugs as it is likely that his behaviour due to opiate addiction harms other individuals in his immediate social milieu.

There is no question that other societally accepted drugs and behavioural patterns are equally if not more physically and socially harmful. (National Safety Council Report, 1974; Kornetsky and Humphries, 1957) Thus our intolerance for opiates becomes suspect. An analysis of historical evidence regarding the introduction of opiate use in The United States and Canada and its subsequent illegality, suggests that much of this intolerance is based on prejudice and fear. (Morton, 1973; Isbell, 1963) Scientific evidence unquestionably supports the fact that alcohol use at addictive levels is more physically damaging than is opiate use. Behavioural patterns of alcoholics while "under the influence" are also considerably more reprehensible than those of opiate addicts experiencing their analgesic "high." Even snow mobiling, mountain climbing and hang gliding, have an accident, injury and death rate far above the national averages of more subdued or ordinary activities yet we have not outlawed these high risk individual pursuits. (National Safety Council Report, 1974)

Certainly to legalize opiate sale and use would not solve the addict's innermost problems. But continuing the illegalization of them is creating unmanageable problems that might become more manageable if opiate addiction were considered and treated in a more reasonable frame of reference --- namely that of a psychiatric or behaviouristic problem. (Pittel, 1971; Murphy, 1968) Whether these treatment implications be psychotherapeutic, behaviouristic, aversive therapy oriented, or carte blanche maintenance is an issue for future discussion.

It does not appear that the problem created by the illegality of opiates could be worsened and it is nearly inconceivable that additional or more serious problems for the addict would result. Some of the ex-horbitant profiteering by upper eschelon black marketeers (Cleu Report, 1974) might be curtailed although this may be wishful thinking. At best, the addict would be relieved of his criminal identity and treated
via programs designed to meet his individual needs. Responsibility for his actions and treatment might be placed where it rightly belongs -- on the addict himself, as it is with the mountain climber, the compulsive eater, the smoker, and the drinker!

If opiate addiction is a problem, the root of it does not lie in the opiate but rather in the addict. It seems clear that all of our law enforcement efforts have been directed at the opium poppy or its natural, synthetic, and semi-synthetic derivatives and substitutes. In view of all evidence presently available there is little doubt that this has been a ridiculous waste of precious time, energy, and money! It is worth wondering why we have treated the symptoms while disregarding the causes. We have punished those suffering the symptoms and in so doing compounded the underlying problems. If the addict hates society, we must, if we are to do anything, attempt to find out why. If the addict lives in an impoverished area, here is something with which concerned people can grapple. If the addict is depressed, this should be the focus of attention rather than his own attempts at self-treatment through opiate self-administration. When a doctor prescribes demorol for the relief of the pain of a broken leg, the broken leg is not blamed on the opiate. The leg is splinted, the opiate used to relieve the pain. If the pain never vanishes because of the frailty of human knowledge and/or judgement, is it logical for the man with the broken leg to go to jail because he wishes to remain free of his pain? Are we big enough to acknowledge that we do not possess the skill and know-how to mend the leg? Are we big enough to recognize human error? Can we now, albeit belatedly, ameliorate, and perhaps correct, the errors of our great grandfathers in the early years of this century?
GLOSSARY

ANOMIE - A state of society in which normative standards of conduct and belief are lacking.

ABSTINENCE (Syndrome) - Commonly known as 'withdrawal' — a physiological reaction resulting from withdrawal of a drug dependent person from the drug concerned. (See also: Physical dependence and addict, for further clarification)

ADDICT - An individual with a strong dependence, both physiological and psychological, upon any dependence producing drug. Addiction is characterized by the abstinence syndrome upon withdrawal of the drug. It appears that the presence in the body of the addicting drug is necessary to maintain normal cellular functions and when the drug is withdrawn distortion of physiological processes ensues. (Hinsie and Campbell, 1970)

ALCOHOLIC - A person addicted to alcohol. One is considered to suffer from chronic alcoholism if its use interferes with successful physical, personality, and/or social functioning and he is unable to recognize the deleterious effects or in recognizing them is unable to curtail consumption. (Hinsie and Campbell, 1970)

AMPHETAMINE - A sympathomimetic amine similar to ephedrine but with a greater ability to stimulate the higher centers, particularly the cortex. A high tolerance is developed to amphetamines. (Hinsie and Campbell, 1970) See also: stimulant

ANACLITIC - Relating to dependence on another or others; characterized by dependence of libido on another instinct (e.g., hunger).

ANALGESIC - Causing analgesia or freedom from pain (Stedman, 1972).

ANTIDEPRESSANT - An agent or drug used in treating depression. (Stedman, 1972)

BARBITURATE - Sedative - Hypnotic drugs, specifically any of the derivatives of barbituric acid. Used medically, they reduce anxiety and tension, produce general sedation, and sleep. They are dependence producing. (LeDain, et. al., 1973)

CHROMATOGRAPHY - A process of separating chemical substances and particles by differential movement through a two-phase system. Thin Layer chromatography separates through a thin layer of cellulose or similar inert material supported on a glass or plastic plate. Gas-liquid chromatography separates through gases or vapors with the stationary phase being liquid rather than solid. (Stedman, 1972)

CHI SQUARE (Test of Significance) - A statistical means of determining whether or not the differences between the observed and theoretical frequencies be considered due to sampling error or whether they are significant. (Ferguson, 1966)
CIRRHOSIS - Progressive disease of the liver. When associated with chronic alcoholism it is associated with enlargement of the liver due to fatty change in its early stages and with contraction of the liver in later stages. It may be caused directly by the alcohol or because of an associated nutritional deficiency. (Stedman, 1972)

CLASSICAL CONDITIONING - The experimental procedure in which an adequate stimulus is paired with an inadequate stimulus until the previously inadequate stimulus is by itself able to evoke the response. (Hinsie and Campbell, 1970)

CODEINE - Obtained from opium but usually made from morphine. It is used as an analgesic and antitussive cough depressant. Drug dependence may develop from chronic use. (Stedman, 1970)

CONDITIONED - A response evoked by the process of conditioning. (Hinsie and Campbell, 1970) (See also: Classical conditioning)

COVARIANCE, ANALYSIS OF ... A means of determining an equation that will relate values of an observed dependent variable to values of a second independent variable. The independent variable is generally selected by the experimenter such as varying dosages of a drug. The sum of products of the deviations from the respective means gives the covariance. (Edwards, 1961)

COVARIATES - SEE: Covariance, Analysis of ...

DEMEROL - A synthetic opium derivative. Its effect is like those drugs which are alkaloids of opium (morphine, codeine) but it is produced synthetically. Other synthetics are methadone and pentazocine.

DEPRESSANT - An agent that lowers nervous or functional activity. (Stedman, 1972)

DEPRESSION - A clinical syndrome consisting of lowering of mood tone, difficulty in thinking, and psychomotor retardation. The general retardation may be masked by anxiety, obsessive thinking, and agitation. (Hinsie and Campbell, 1970)

D.E.R.O.S. - Date of estimated return from Overseas. (used in U.S. military)

DILAUDID - A semi-synthetic opiate narcotic drug. Dilaudid is the trade name for hydromorphone and is in the same category of opiates as is heroin. Its effect is like those drugs which are alkaloids of opium (morphine, codeine) but it is composed partially of synthetic compounds.

DOXIPEN - An anti-depressant drug.

DYSPHORIA - A state of feeling unwell or unhappy.
EFFICACY - The power to produce an effect.

ETIOLOGIC - Assigning or seeking to assign a cause.

FACTOR ANALYSIS - An attempt to provide a simplified description of relationships between sets of variables, which facilitate interpretation and comprehension of data information. (Ferguson, 1966)

F-RATIO - Variance ratio; a statistical means of determining whether differences between the variance of measurements are significant.

FREE RADICAL ASSAY TECHNIQUE - An analysis for purity via the free radical technique. A radical is a group of elements or atoms usually passing intact from one compound to another but usually incapable of prolonged existence in a free state. A free radical is in its (usually transient) uncombined state. (Stedman, 1972)

HASHISH - See marijuana

HEROIN - An opiate narcotic drug that is semi-synthetic (diacetyl-morphine). I.e., it is in part a natural opium derivative and in apart a chemical synthetic.

INTRA-PSYCHIC - Situated or taking place within the psyche. (Psyche meaning the mind) (Hinsie and Campbell, 1970)

JUNKIE - An opiate narcotic addict.

LATIN SQUARE - In an experiment involving various treatments and subgroups of subjects, subjects in each subgroup are assigned at random to treatments. The latin square insures that each treatment occurs only once in each subgroup. E.g. A B C D
B C D A
C D A B
D A B C (Ferguson, 1966)

LIBIDO - In psychoanalysis, the energy of the sexual drive, and more recently also used in reference to the energy of the death or aggressive drive. (Hinsie and Campbell, 1970)

LSD (LYSERCIC ACID DIETHYLAMIDE - 25) - A psychotomimetic drug of the psychedelic-hallucinogen class. It is often considered the prototype of the hallucinogenic drug group. (LeDain et. al., 1973)

MANN WHITNEY U TEST - A rank test for two independent samples where the N is less than eight. Exact probabilities may be obtained for each rank. (Ferguson, 1966)

MARIJUANA (CANNABIS, HASHISH) - Classified by the LeDain Commission as a psychedelic-hallucinogen. This drug is made from the dried flowering tops of the pistillate plants cannabis sativa. Its effect when smoked or ingested is to cause euphoria, hallucinations, and drowsiness and was formerly used as a sedative and analgesic.
MMPI (MINNESOTA MULTIPHASIC PERSONALITY INVENTORY) - A nonprojective character test useful primarily for assessing degree and nature of intra-psychic pathology in an essentially cooperative patient population. It has generally been the instrument of choice for screening and assessing emotional upset in a research population. "It was empirically developed from patient populations that were reasonably motivated to reveal upset. In a differently motivated population, the test and its standard norms are not valid and can be grossly misleading." (Rodgers from Burns, 1965, pp. 103-104)

MORPHINE - The major opium alkaloid producing a combination of depression and excitation of the CNS (Central Nervous System) depending on species and dose. Tolerance, physical dependence, and psychological dependence all possible through repeated use. It is used medically as a reliable, effective analgesic and for sedation and alleviation of anxiety. (Stedman, 1972).

NARCISSISM - As applied to an adult, the term implies a hypercathexis of the self and/or a hypocathexis of objects in the environment and/or a pathologically immature relationship to objects in the environment. (Hinsie and Campbell, 1970)

NEUROSES - Physical disorders affecting a part of the personality. Reality is not qualitatively changed, language is not disturbed, the unconscious never attains more than symbolic expression and regression to primitive levels is not found. Symptoms include sensory, motor, or visceral disturbances and mental disturbances such as anxieties, specific fears and avoidances, memory disturbances, trance-states, somnambulisms, etc. (Hinsie and Campbell, 1970)

OPIATES - Natural alkaloids of the opium poppy or semi-synthetic and synthetic derivatives. They are used medically to relieve pain, diminish anxiety and tension.

ONTOGENESIS - The development of the individual as distinguished from phylogenesis which is the evolutionary development of the species.

PATHOLOGY (PATHOLOGIC) - The science of the nature of diseases. Pathologic implies in this context the presence of an abnormal condition with resultant functional changes due to the disease process (not necessarily physically rooted but may be psychologically as well or instead).

PERSERVERATION - Involuntary continuation or recurrence of an experience or activity, most typically verbal, which is more appropriate to a preceding stimulus than to the succeeding stimuli which provoke the activity. Defined more operationally, it is the inability to shift from one task to another or to break through an established set in order to perform a new task. (Hinsie and Campbell, 1970)

POLYGAMY - The practice of having more than one spouse.

PHYSICAL DEPENDENCE – Physiological state of adaptation to a drug normally following the development of tolerance, which results in a characteristic set of withdrawal symptoms when administration of the drug is terminated. (Stedman, 1972)

PRODROMAL – From prodrome, meaning precursor. An early or premonitory symptom of a disease or disorder. (Hinsie and Campbell, 1970)

PSYCHEDELIC – Mind-manifesting; sometimes used to describe certain pharmacologic agents which have an effect on mental processes. (Hinsie and Campbell, 1970) See also: LSD, Marijuana

PSYCHODYNAMIC – Relating to the forces of the mind. (Hinsie and Campbell, 1970)

PSYCHOMOTOR – Relating to movement that is psychically determined in contradistinction to that which is definitely recognized as extra psychic or organic in cause (involuntary). (Hinsie and Campbell, 1970)

PSYCHOPATHIC PERSONALITY – Antisocial personality. (Hinsie and Campbell, 1970)

PSYCHOTOPIC (Drug) – One which has the capacity to alter sensation, mood, consciousness, or other psychological or behavioural functions. (LeDain, et. al., 1973)

PSYCHOSIS – Loosely, any mental disorder, with the term psychosis used often in a quantifying sense to indicate severity. (Hinsie and Campbell, 1970)

PSYCHOTOMIMETIC (Agent) – E.g. Psychedelic drugs, hallucinogens – those substances which produce psychological changes in a high proportion of subjects exposed to the drug without producing the gross impairment of memory and orientation characteristic of the organic reaction type. (Hinsie and Campbell, 1970) These drugs may produce alteration in sensation, mood, and consciousness, at doses which result in comparatively slight peripheral physiological activity. (LeDain, et. al., 1973)

RADICAL ASSAY – See Free Radical Assay Technique

SCHIZOPHRENIA – A disease where there is splitting off of portions of the psyche, which portions may then dominate the psychic life of the subject for a time and lead an independent existence even though these may be contradictory to the personality as a whole. (Hinsie and Campbell, 1970)

INCIPIENT SCHIZOPHRENIA – Schizophrenia which is beginning to become apparent.
SEDATIVE HYPNOTICS - (Alcohol, barbiturates, tranquilizers, sleeping pills) These drugs decrease central nervous system activity with some psychological stimulation resulting at low doses. Used medically they reduce anxiety and tension, produce general sedation, and at higher doses may produce sleep. (LeDain, et. al. 1973)

STIMULANTS - (Amphetamines, caffeine, cocaine, 'speed', 'diet', 'pep', pills) - Generally suppress appetite, increase activity, alertness, tension, and general Central Nervous System arousal. At higher doses stimulants block sleep. (LeDain et. al., 1973)

STIMULUS (Plural: stimuli) - Anything that arouses action, i.e. response. (Stedman, 1972)

TACHISTOSCOPE - An instrument used in experimental optics to determine the shortest exposure capable of making a conscious impression on the retina. (Stedman, 1972)

TOLERANCE - Increasing resistance to the effects of a drug.

TRANQUILIZERS - Sedative hypnotic drug which may be major or minor but generally refers to those which are minor (Valium®, Librium®) and used to reduce tension and anxiety as opposed to producing sleep.

VARIANCE, ANALYSIS OF ... Statistical method for comparing variations in behaviour, performance, etc., for two groups or one group under different conditions. The variance is computed from the squares of the deviations from the mean. (Edwards, 1961)
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